DEPARTMENT OF VETERANS AFFAIRS MEDICAL CENTER

8TH FLOOR SICU ADDITION PROJECT NO. 634-406

April 1, 2013



CONSULTANTS:	ARCHITECT/ENGINEERS: CERT. OF AUTHORITY 3722 EXP. 06/30/2013	Drawing Title GENERAL	Project Title OKC VA MEDICAL CENTER	Project Number 635-406	Office of
	/ FITERSE B	SECKET COVER SHEET	8TH FLOOR SICU ADDITION	Building Number 001	Construction and Facilitie
	BENHAM	Approved: Project Director	Location OKLAHOMA CITY, OK	Drawing Number	Manageme
			Date Checked Drawn 04/01/2013 RB RG	GI001	Departme

 1
 3

 4

 5

VA FORM 08-6231

DRAWING INDEX AS915 INTERIOR DETAIL — GUARDRAIL, MISC. EY108 COMMUNICATIONS EIGHTH FLOOR PLAN AI101 ROOM FINISH SCHEDULE AND KEY TO FINISHES EY109 COMMUNICATIONS NINTH FLOOR PLAN Al208 EIGHTH FLOOR INTERIOR FINISH PLAN EY501 COMMUNICATIONS DETAILS GENERAL EY502 COMMUNICATIONS DETAILS GI001 COVER SHEET FIRE PROTECTION G1002 DRAWING INDEX F-001 FIRE PROTECTIONS SYMBOLS AND DIAGRAMS SYMBOLS AND ABBREVIATIONS FD181 FIRE PROTECTION DEMO PLAN LIFE SAFETY PLAN 6TH, 7TH & 8TH FLOOR GI181 FA181 8TH FLOOR FIRE ALARM PLAN LIFE SAFETY PLAN ROOF LEVEL FP181 8TH FLOOR FIRE SUPPRESSION PLAN STRUCTURAL MECHANICAL GENERAL STRUCTURAL NOTES M - 001LEGEND AND ABBREVIATIONS GENERAL STRUCTURAL NOTES MD181 ROOF HVAC DEMO PLAN SS003 STRUCTURAL ABBREVIATIONS MH181 EIGHTH FLOOR HVAC PLAN SS004 TYPICAL DETAILS HVAC ROOF PLAN MH191 SS005 TYPICAL DETAILS ENLARGED HVAC PLAN MH400 SS006 TYPICAL DETAILS MP181 EIGHTH FLOOR HYDRONIC PIPING PLAN SS007 TYPICAL DETAILS MP401 ENLARGED ROOF PIPING PLAN SS008 STRUCTURAL SPECIAL INSPECTIONS REQUIREMENTS M - 501DETAILS SF108 EIGHTH FLOOR FRAMING PLAN M - 502DETAILS NEW ROOF FRAMING PLAN M - 503DETAILS FRAMING ELEVATIONS M - 504DETAILS SS410 EXISTING ELEVATOR DEMOLITION & FRAMING PLANS M - 505DETAILS SS411 ENLARGED PLANS M - 601SCHEDULES FRAMING SECTIONS AND DETAILS M - 602SCHEDULES FRAMING SECTIONS AND DETAILS M - 603SCHEDULES SS502 FRAMING SECTIONS AND DETAILS M - 611HVAC AIR BALANCE DIAGRAM M - 612STEAM AND HEATING PIPING DIAGRAMS M - 613HEATING HOT WATER AND CHILLED WATER FLOW DIAGRAMS ARCHITECTURAL CONTROLS - LEGEND AND ABBREVIATIONS M - 700AD108 EIGHTH FLOOR ROOF DEMO PLAN CONTROLS - RTU-101 LAYOUT M - 701AS107 SEVENTH FLOOR — OVERALL M - 702CONTROLS - CHILLER BOILER SYSTEM LAYOUT AS108 EIGHTH FLOOR — OVERALL CONTROLS - SEQUENCE OF OPERATIONS M - 703EIGHTH FLOOR - AREA F1 AS108A CONTROLS - MISC. SYSTEMS LAYOUT M - 704AS108B EIGHTH FLOOR - AREA F2 M - 705CONTROLS - INSTALLATION DETAILS PAGE 1 PENTHOUSE PLAN AS109 M - 706CONTROLS — INSTALLATION DETAILS PAGE 2 AS110 ROOF PLAN M - 707CONTROLS - GENERAL PROJECT NOTES AND INSTRUCTIONS SEVENTH FLOOR REFLECTED CEILING PLAN AS208A EIGHTH FLOOR REFLECTED CEILING PLAN — AREA F1 AND F1 (SOUTH) PLUMBING EIGHTH FLOOR REFLECTED CEILING PLAN - AREA F2 AS208B P-001 LEGEND AND ABBREVIATIONS EXTERIOR ELEVATIONS PD181 ROOF - DEMOLITION PLAN AS302 EXTERIOR ELEVATIONS P - 171SEVENTH FLOOR PLAN BUILDING SECTIONS AS401 P-181 EIGHTH FLOOR PLAN WALL SECTIONS P-182 EIGHTH FLOOR MEDICAL GAS PLAN WALL SECTIONS P-191 ROOF PLAN WALL SECTIONS AS503 P-501 DETAILS WALL SECTIONS AS504 P-601 SCHEDULES WALL SECTIONS P-801 RISER DIAGRAMS PLAN DETAILS AS575 PLAN DETAILS ELECTRICAL STAIR DETAILS AS605 E-001 LEGEND AND ABBREVIATIONS AS621 PARTITION TYPES ED181 EIGHTH FLOOR DEMOLITION PLAN AS622 PARTITION TYPES ES100 SITE PLAN AS623 PARTITION TYPES EP181 EIGHTH FLOOR POWER PLAN AS701 ENLARGED PLANS EL181 EIGHTH FLOOR LIGHTING PLAN STAIR PLANS — SECTIONS E-191 ELECTRICAL ROOF PLAN AS703 ELEVATOR PLANS - SECTIONS E-192 LIGHTNING PROTECTION PLAN EQUIPMENT PLAN E - 405ELECTRICAL CHASE PARTIAL PLANS AS711 EQUIPMENT PLAN - AREA F1 E - 501LIGHTNING PROTECTION DETAILS EQUIPMENT PLAN - AREA F2 E - 601ELECTRICAL ONE-LINE STANDARD MOUNTING HEIGHTS E-602 ELECTRICAL ONE- LINE AS801 INTERIOR ELEVATIONS E - 605LIGHTING SCHEDULES AND DETAILS INTERIOR ELEVATIONS PANELBOARD SCHEDULES E - 610INTERIOR ELEVATIONS E - 611PANELBOARD SCHEDULES AS905 DOOR TYPES, FRAME AND DETAILS DOOR DETAILS, WINDOW SCHEDULES AND WINDOW DETAILS AS906 COMMUNICATIONS INTERIOR DETAILS - CEILING COMMUNICATIONS TITLE AND SYMBOL SHEET INTERIOR DETAILS - CASEWORK & MILLWORK AS913 EY10B COMMUNICATIONS BASEMENT FLOOR PLAN INTERIOR DETAILS — BLOCKING, TRANSITION, MISC. FULLY SPRINKLERED one eighth inch = one foot

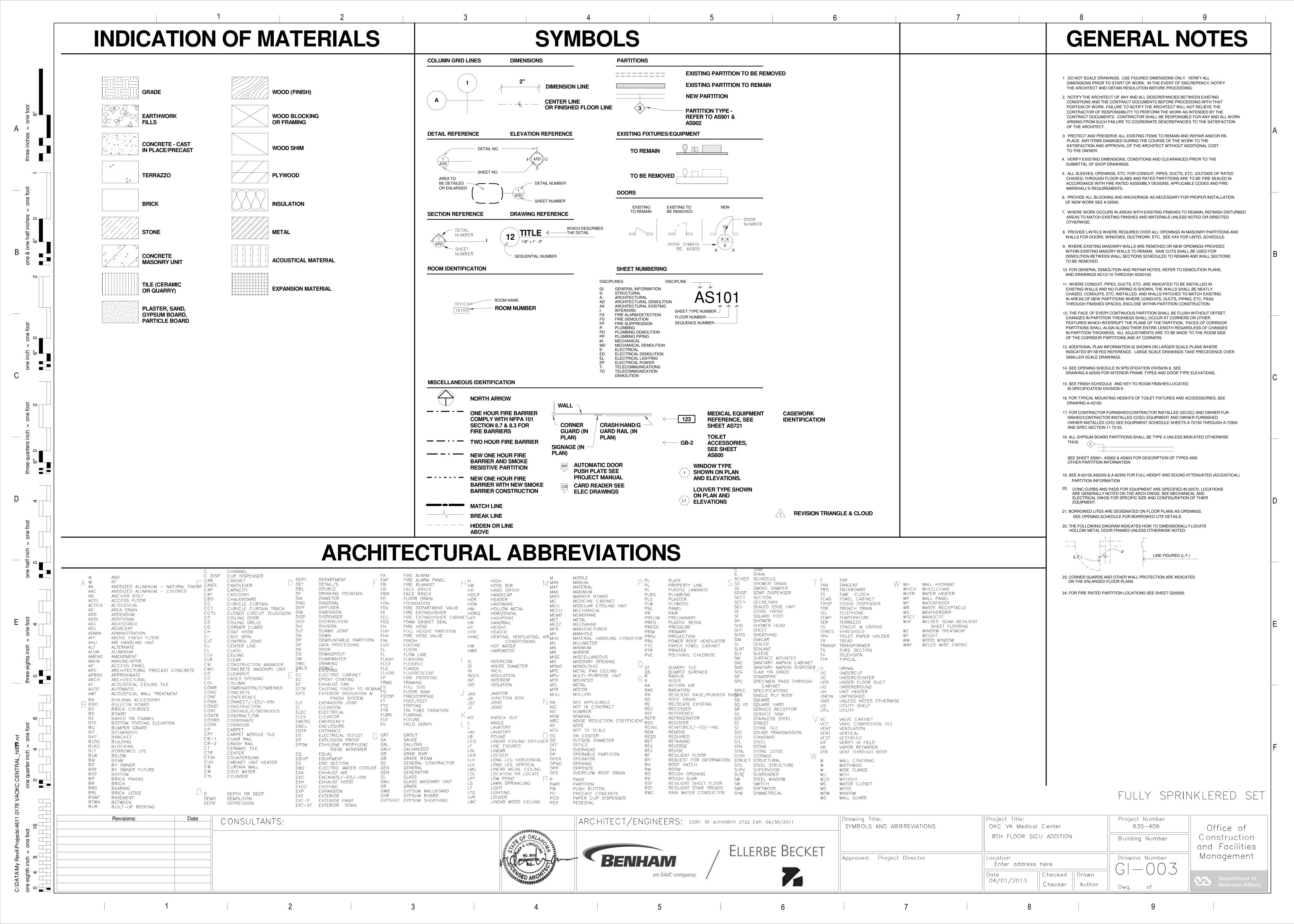
0 4 8 16 Drawing Title Project Title Project Number CONSULTANTS: ARCHITECT/ENGINEERS: CERT. OF AUTHORITY 3722 EXP. 06/30/2013 OKC VA MEDICAL CENTER Office of 635-406 **GENERAL** 8TH FLOOR SICU ADDITION Construction Building Number DRAWING INDEX ELLERBE BECKET 001 and Facilities BENHAM Approved: Project Director Drawing Number Location OKLAHOMA CITY, OK Management G1002 Department of Veterans Affairs 04/01/2013 Dwg. -- of --

6

8

3 4 5

VA FORM 08-6231



DESIGN CODES AND STANDARDS:

INTERNATIONAL BUILDING CODE, 2006 EDITION NFPA 10: STANDARD FOR PORTABLE FIRE EXTINGUISHERS, 2010

NFPA 13: STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2010

NFPA 14: STANDARD FOR THE INSTALLATION OF STANDPIPES AND HOSE SYSTEMS, 2010

NFPA 70: NATIONAL ELECTRIC CODE, 2008

NFPA 72: NATIONAL FIRE ALARM CODE, 2010 NFPA 90A: STANDARD FOR THE INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS, 2009

LIFE SAFETY CODE, 2009 NFPA 101*:

NFPA 241 SAFEGUARDING CONSTRUCTION, ALTERATION, AND DEMOLITION OPERATIONS, 2009

DEPARTMENT OF VETERANS AFFAIRS FIRE PROTECTION DESIGN MANUAL, FIFTH EDITION APRIL 2009

* VA FIRE PROTECTION MANUAL 1.3.D - FOR DESIGN FEATURES THAT ARE ADDRESSED BY BOTH THE IBC AS WELL AS NFPA 101 OR A DOCUMENT REFERENCED BY NFPA 101, THE REQUIREMENTS OF NFPA 101 OR THE DOCUMENT REFERENCED BY

NFPA 101 SHALL BE USED EXCLUSIVELY (THIS APPLIES EVEN IF THE IBC REQUIREMENTS ARE DIFFERENT).

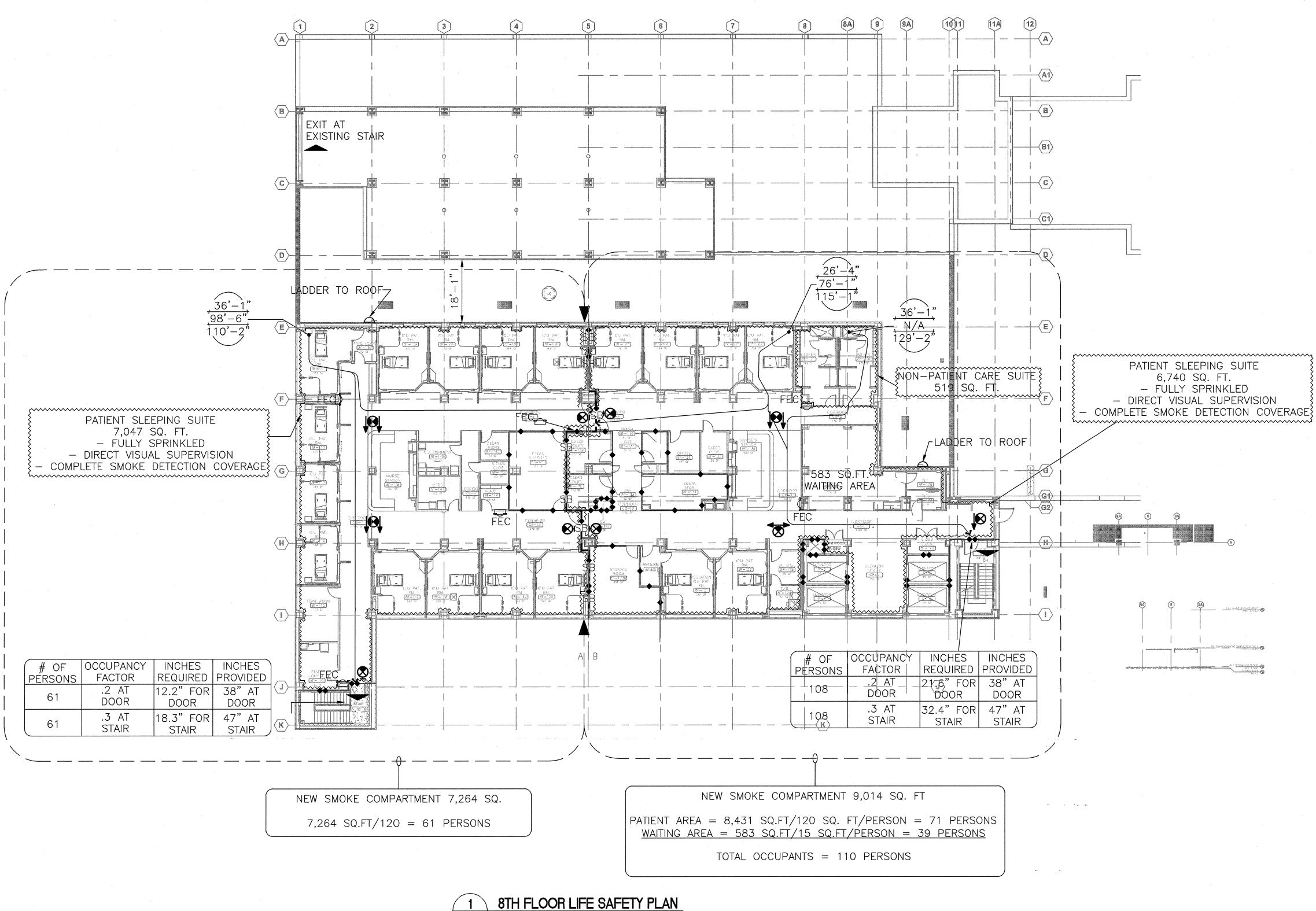
FIRE/LIFE SAFETY SYMBOLS:

SYMBOL	DESCRIPTION
.	NEW 1 HOUR FIRE BARRIER (MUST COMPLY WITH NFPA 101 SECTION 8.7 & 8.3 FOR FIRE BARRIERS)
	NEW SMOKE RESISTIVE PARTITION
—◆SR—	NEW 1 HOUR FIRE BARRIER AND SMOKE RESISTIVE PARTITION
◆SB	NEW 1 HOUR FIRE BARRIER WITH NEW SMOKE BARRIER CONSTRUCTION
 ◆◆SB 	NEW 2 HOUR FIRE BARRIER WITH NEW SMOKE BARRIER CONSTRUCTION
	NEW 2 HOUR FIRE BARRIER
···········	SUITE LIMITS
— — — —	LIMITS OF SMOKE COMPARTMENT
<u> </u>	TRAVEL DISTANCE. DASHED LINE INDICATES TRAVEL DISTANCE TO EXIT ACCESS CORRIDOR AND COMMON PATH.
X'-XX" Y'-YY" Z'-ZZ"	TRAVEL DISTANCE STARTING POINT WHERE; X'-XX" = COMMON PATH OF TRAVEL Y'-YY" = SUITE TRAVEL DISTANCE Z'-ZZ" = TOTAL TRAVEL DISTANCE TO EXIT
	EGRESS POINT STAIR OR DOOR
₽ FEC	RECESSED MOUNTED FIRE EXTINGUISHER CABINET
	WALL MOUNTED EXIT LIGHT. DIRECTION AS SHOWN ON FLOOR PLANS
	CEILING MOUNTED EXIT LIGHT. DIRECTION AS SHOWN ON FLOOR PLANS.

WHEN "SMOKE RESISTIVE PARTITION" IS USED, THE PARTITION MUST COMPLY WITH NFPA 101 SECTION 18.3.6.1 DOES NOT NEED TO COMPLY WITH SMOKE PARTITIONS OR SMOKE BARRIERS. THIS IS ONLY REQUIRED TO BE SMOKE RESISTIVE CONSTRUCTION. THE SMOKE RESISTIVE PARTITION RATING SHALL EXTEND TO THE BOTTOM OF THE DROP TILE ACOUSTIC

GENERAL NOTES THIS SHEET

- 1. REFER TO THE ILSM FOR HOSPITAL LIFE SAFETY REQUIREMENTS
- DURING CONSTRUCTION. 2. CEILING TILES SHALL BE CLIPPED.
- 3. THE FLOOR FIRE RATING IS 2 HOURS. ALL PENETRATIONS SHALL BE SEALED BY A LISTED METHOD.
- 4. THE ROOF FIRE RATING IS 1 $\frac{1}{2}$ HOUR. ALL PENETRATIONS THROUGH THE ROOF DECK SHALL BE SEALED BY A LISTED
- 5. ALL RATED WALLS SHALL BE STENCILED AND LABELED IN ACCORDANCE WITH THE HOSPITAL GUIDELINES.
- 6. NO EXPOSURE PROTECTION BETWEEN THE MECHANICAL PENTHOUSE AND THE 8TH FLOOR IS REQUIRED PER NFPA 80A. BOTH AREAS ARE FULLY SPRINKLED THEREFORE, NO EXPOSURE HAZARD IS CONSIDERED TO EXIST.



G1181 SCALE: 1/16" = 1'-0"

ALLOWABLE TRAVEL DISTANCES

SLEEPING SUITES

COMMON PATH = 100' MAXIMUM

SUITE TRAVEL DISTANCE = 100' WITH 1 INTERVENING SPACE MAXIMUM

TRAVEL DISTANCE TO EXIT = 200' MAXIMUM

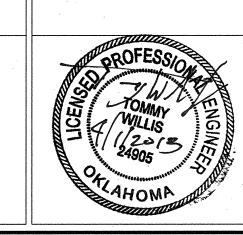
NON-PATIENT SUITES

SUITE TRAVEL DISTANCE = NOT APPLICABLE TO

TRAVEL DISTANCE TO EXIT = 200' MAXIMUM

COMMON PATH = 100' MAXIMUM

NON-PATIENT SUITES.



ARCHITECT/ENGINEERS: CERT. OF AUTHORITY 3722 EXP. 06/30/2013

BENHAM

ELLERBE BECKET

Drawing Title **GENERAL** LIFE SAFETY PLAN 8TH FLOOR Approved: Project Director

Project Title OKC VA MEDICAL CENTER 8TH FLOOR SICU ADDITION

SCALE IN FEET (1/16"=1'-0")

FULLY SPRINKLERED Project Number 635-406 Office of Construction Building Number

001 Drawing Number G|181 and Facilities Management

VA FORM 08-6231

CONSULTANTS:

3

Location
OKLAHOMA CITY, OK 04/01/2013 RCR TSW

Department of Veterans Affairs

DESIGN CODES AND STANDARDS:

IBC*: INTERNATIONAL BUILDING CODE, 2006 EDITION STANDARD FOR PORTABLE FIRE EXTINGUISHERS, 2010 NFPA 10: STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2010 NFPA 13: NFPA 14: STANDARD FOR THE INSTALLATION OF STANDPIPES AND HOSE SYSTEMS, 2010 NATIONAL ELECTRIC CODE, 2008 NFPA 70: NFPA 72: NATIONAL FIRE ALARM CODE, 2010 STANDARD FOR THE INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS, 2009 NFPA 90A: NFPA 101*: LIFE SAFETY CODE, 2009 SAFEGUARDING CONSTRUCTION, ALTERATION, AND DEMOLITION OPERATIONS, 2009 NFPA 241 VA DEPARTMENT OF VETERANS AFFAIRS FIRE PROTECTION DESIGN MANUAL, FIFTH EDITION APRIL 2009 * VA FIRE PROTECTION MANUAL 1.3.D - FOR DESIGN FEATURES THAT ARE ADDRESSED BY BOTH THE IBC AS WELL AS NFPA

101 OR A DOCUMENT REFERENCED BY NFPA 101, THE REQUIREMENTS OF NFPA 101 OR THE DOCUMENT REFERENCED BY

NFPA 101 SHALL BE USED EXCLUSIVELY (THIS APPLIES EVEN IF THE IBC REQUIREMENTS ARE DIFFERENT).

FIRE/LIFE SAFETY SYMBOLS:

SYMBOL	DESCRIPTION
	NEW 1 HOUR FIRE BARRIER (MUST COMPLY WITH NFPA 101 SECTION 8.7 & 8.3 FOR FIRE BARRIERS)
	NEW SMOKE RESISTIVE PARTITION
—◆SR—	NEW 1 HOUR FIRE BARRIER AND SMOKE RESISTIVE PARTITION
 ♦\$B	NEW 1 HOUR FIRE BARRIER WITH NEW SMOKE BARRIER CONSTRUCTION
	NEW 2 HOUR FIRE BARRIER
~~~~~	SUITE LIMITS
-	LIMITS OF SMOKE COMPARTMENT
	TRAVEL DISTANCE. DASHED LINE INDICATES TRAVEL DISTANCE TO EXIT ACCESS CORRIDOR AND COMMON PATH.
X'-XX" Y'-YY" Z'-ZZ"	TRAVEL DISTANCE STARTING POINT WHERE; X'-XX" = COMMON PATH OF TRAVEL Y'-YY" = SUITE TRAVEL DISTANCE Z'-ZZ" = TOTAL TRAVEL DISTANCE TO EXIT
	EGRESS POINT STAIR OR DOOR
₽ FEC	RECESSED MOUNTED FIRE EXTINGUISHER
	NOT IN CONTRACT
₹	WALL MOUNTED EXIT LIGHT. DIRECTION AS SHOWN ON FLOOR PLANS
	CEILING MOUNTED EXIT LIGHT. DIRECTION AS SHOWN ON FLOOR PLANS.

WHEN "SMOKE RESISTIVE PARTITION" IS USED, THE PARTITION MUST COMPLY WITH NFPA 101 SECTION 18.3.6.1 DOES NOT NEED TO COMPLY WITH SMOKE PARTITIONS OR SMOKE BARRIERS. THIS IS ONLY REQUIRED TO BE SMOKE RESISTIVE CONSTRUCTION. THE SMOKE RESISTIVE PARTITION RATING SHALL EXTEND TO THE BOTTOM OF THE DROP TILE ACOUSTIC CEILING.

ALLOWABLE TRAVEL DISTANCES

SLEEPING SUITES

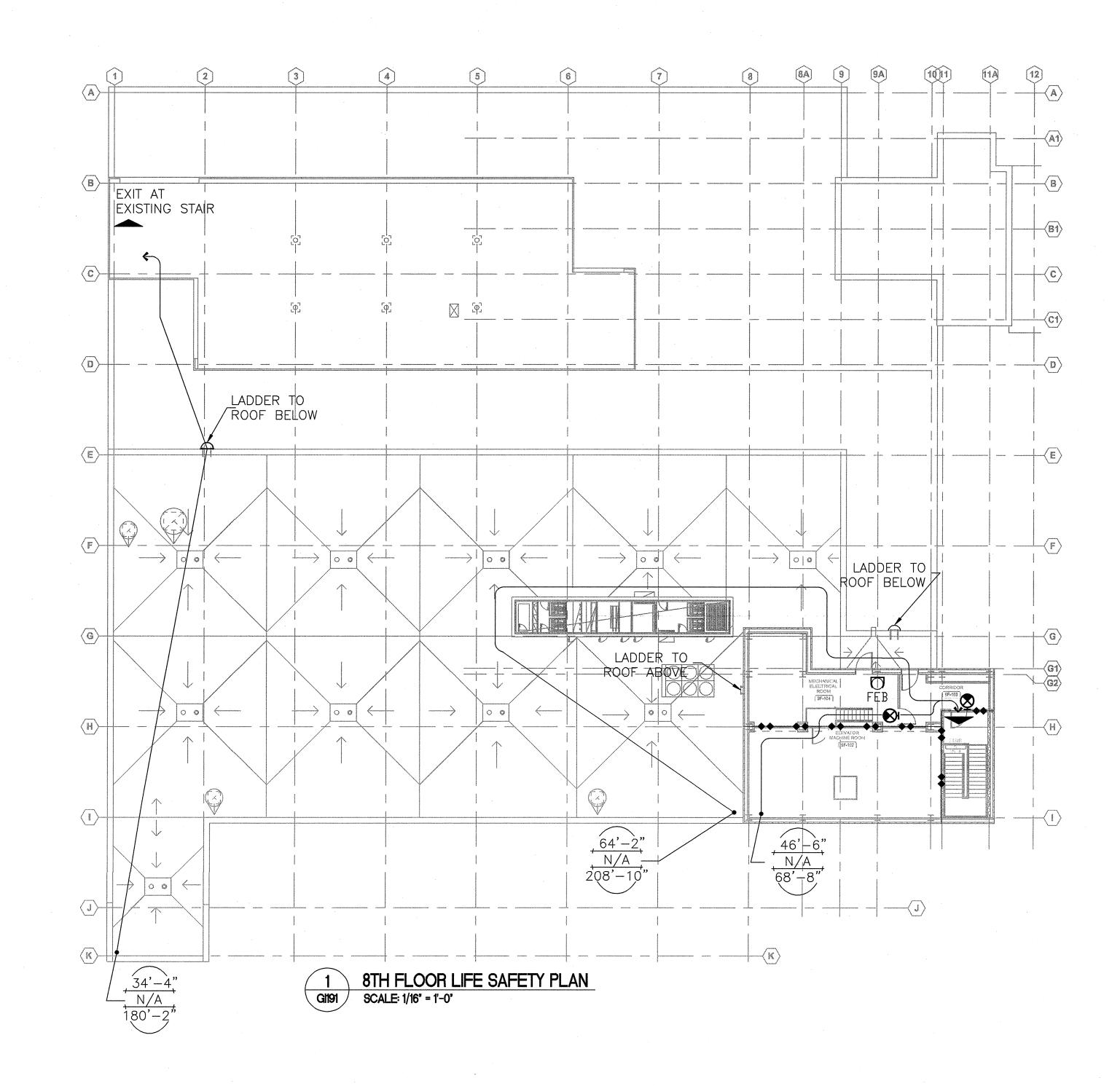
COMMON PATH = 100' MAXIMUM

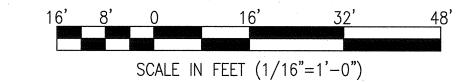
TRAVEL DISTANCE TO EXIT = 200' MAXIMUM

GENERAL NOTES THIS SHEET

- 1. REFER TO THE ILSM FOR HOSPITAL LIFE SAFETY REQUIREMENTS
- DURING CONSTRUCTION.
- CEILING TILES SHALL BE CLIPPED.
 THE FLOOR FIRE RATING IS 2 HOURS. ALL PENETRATIONS SHALL
- BE SEALED BY A LISTED METHOD.

 4. THE ROOF FIRE RATING IS 1 $\frac{1}{2}$ HOUR. ALL PENETRATIONS THROUGH THE ROOF DECK SHALL BE SEALED WITH A LISTED METHOD.





FULLY SPRINKLERED

Project Title
OKC VA MEDICAL CENTER Drawing Title Project Number CONSULTANTS: ARCHITECT/ENGINEERS: CERT. OF AUTHORITY 3722 EXP. 06/30/2013 Office of 635-406 GENERAL 8TH FLOOR SICU ADDITION LIFE SAFETY PLAN ROOF LEVEL Construction Building Number ELLERBE BECKET 001 and Facilities BENHAM Approved: Project Director Location
OKLAHOMA CITY, OK Drawing Number Management Department of Veterans Affairs 04/01/2013 TSW RCR Dwg. -- of --VA FORM 08-6231

A. DESIGN & ANALYSIS CRITERIA

- 1. "BUILDING CODE" INTERNATIONAL BUILDING CODE 2006 (IBC 2006) AS SUPPLEMENTED BY ASCE 7 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" (2005) AND MODIFIED BY VA PG-18-10 "DESIGN MANUALS" (STRUCTURAL DESIGN MANUAL FOR HOSPITALS, AUGUST 2009) AND VA HANDBOOK H-18-8 "SEISMIC DESIGN REQUIREMENTS" (JULY 2010).
- 2. LIVE LOADS DETERMINED IN ACCORDANCE WITH THE "BUILDING CODE" AND SUPPLEMENTED BY ASCE 7 AND VA DESIGN MANUALS PG-18-10.

LOCATION	MINIMUM UNIFORMLY DISTRIBUTED LIVE LOAD*	MINIMUM CONCENTRATED LIVE LOAD
ADMIN., CLINICAL & SUPPORT SERVICES	80 PSF	
LOBBIES & CORRIDORS	100 PSF	2000 LB.**
ELEVATOR MACHINE ROOM	150 PSF	300 LB.
MECH./ELEC. ROOMS	150 PSF	
MECH. PENTHOUSE	150 PSF***	
PARTITION_ALLOWANCE	20 PSF*	
ROOFS (MINIMUM)	20 PSF	300 LB.
STAIRS AND EXITWAYS	100 PSF	300 LB.
STORAGE (LIGHT)	150 PSF	2000 LB.**
PATIENT (WARD) ROOMS	40 PSF	1000 LB.

- * PARTITION ALLOWANCE OF 20 PSF UNIFORM LIVE LOAD IS ADDITIVE TO FLOOR UNIFORM LIVE LOADS UNLESS THE SPECIFIED UNIFORM LIVE LOAD EXCEEDS 100 PSF. IN ACCORDANCE WITH VA DESIGN MANUAL PG-18-10.
- ** 2000 LB. CONCENTRATED LIVE LOAD APPLIED ON ANY 2.5 FT. X 2.5 FT. FLOOR AREA. 300 LB. CONCENTRATED LIVE LOAD APPLIED ON A 4 SQUARE INCH AREA OF ANY STAIR TREAD, IN ACCORDANCE WITH VA DESIGN MANUAL PG-18-10.
- *** ACTUAL EQUIPMENT WEIGHTS MAY BE USED IN LIEU OF UNIFORM LIVE LOAD. SEE MECHANICAL FOR MAXIMUM OPERATING DESIGN WEIGHTS.
- THE MINIMUM ROOF LIVE LOAD OF 20 PSF HAS BEEN PROVIDED IN ACCORDANCE WITH VA DESIGN MANUAL PG-18-10 AND HAS NOT BEEN REDUCED.
- FLOOR UNIFORM LIVE LOAD HAS BEEN REDUCED IN ACCORDANCE WITH THE BUILDING CODE.
- 3. SNOW LOADS DETERMINED IN ACCORDANCE WITH THE "BUILDING CODE" AND SUPPLEMENTED BY ASCE 7.

SNOW LOAD PARAMETERS

GROUND SNOW LOAD	Pg = 10 PSF	(IBC 2006, FIG. 1608.2)
TERRAIN CATEGORY	С	(ASCE 7-05, SECTIO 6.5.6, EXPOSURE C)
SNOW EXPOSURE FACTOR	Ce = 1.0	(ASCE 7-05, TABLE 7.2, PARTIALLY EXPOSED)
SNOW THERMAL FACTOR	Ct = 1.0	(ASCE 7-05, TABLE 7.3, ALL STRUCTURE UNO)
SNOW IMPORTANCE FACTOR .	ls = 1.2	(ASCE 7-05, TABLE 7-4, OCCUPANCY CATEGORY IV)
FLAT ROOF SNOW LOAD	Pf = 12 PSF	(ASCE 7, SECTION 7.3, Pf = Pg X Is)

A 5 PSF RAIN-ON-SNOW LOAD HAS BEEN APPLIED TO ROOFS WITH A SLOPE OF LESS THAN 1/2 INCH PER FOOT, AT LOCATIONS WHERE THE GROUND SNOW LOAD IS 20 PSF OR LESS IN ACCORDANCE WITH THE "BUILDING CODE" AND ASCE 7-05.

4. WIND LOADS DETERMINED IN ACCORDANCE WITH THE "BUILDING CODE" AND SUPPLEMENTED BY ASCE 7 AND VA HANDBOOK H-18-8.

WIND LOAD PARAMETERS -

BASIC WIND SPEED V = 90 MPH (IBC 2006, FIG. 1609) WIND IMPORTANCE FACTOR . . lw = 1.15(ASCE 7-05, TABLE 6.1, OCCUPANCY

CONSULTANTS:

WIND EXPOSURE CATEGORY . . C

6.5.6) INTERNAL PRESSURE COEFF. . GCpi = +/-0.18(ASCE 7, FIG. 6-5,

CATEGORY IV)

(ASCE 7-05, SECTION

ENCLOSED BLDG.)

<u>A. DESIGN & ANALYSIS CRITERIA CONTINUED — </u>

5. SEISMIC LOADS DETERMINED IN ACCORDANCE WITH THE "BUILDING CODE".

DESCRIPTION OF THE STRUCTURE AND LATERAL FORCE RESISTING SYSTEM:

ALL LATERAL LOAD RESISTANCE AND STABILITY OF THE BUILDING IN THE COMPLETED STRUCTURE IS PROVIDED BY THE STRUCTURAL STEEL MOMENT FRAMES WITH WELDED BEAM TO COLUMN CONNECTIONS FRAMED IN EACH ORTHOGONAL DIRECTION. THE EXISTING CONCRETE FLOOR SLAB ON COMPOSITE STEEL DECK AND THE NEW STEEL ROOF DECK SERVE AS HORIZONTAL DIAPHRAGMS THAT DISTRIBUTE THE LATERAL WIND AND SEISMIC LOADS HORIZONTALLY TO THE VERTICAL MOMENT FRAMES. THE VERTICAL MOMENT FRAMES CARRY THE APPLIED LOADS TO THE EXISTING BUILDING STRUCTURE AND FOUNDATIONS. THE SEISMIC FORCE-RESISTING SYSTEM UTILIZES STRUCTURAL STEEL MOMENT FRAMES AND IS A "STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE". R = 3.

SEISMIC IMPORTANCE FACTOR le = 1.5 (ASCE

SEISMIC DESIGN PARAMETERS -

	MAPPED SPECTRAL RESPONSE ACCELERATION . AT SHORT PERIOD	7-05, TABLE 11.5-1 OCCUPANCY CATEGORY IV) Ss = 0.336g (VA HANDBOOK, TABLE 3)
	MAPPED SPECTRAL RESPONSE ACCELERATION . AT PERIOD OF 1 SECOND	S1 = 0.074g (VA HANDBOOK, TABLE 3)
	SITE CLASSIFICATION	Sds = 0.267g*
	SEISMIC RESPONSE COEFFICIENT	(CALCULATED) W = PER ASCE 7, SECTION 12.7.2 $V = Cs \times W^*$ $R = 3^{**}$ $\Omega = 3^{**}$
.	DED OFOTFOLINION DEDORT	

- * PER GEOTECHNICAL REPORT.
- ** THE BASIC SEISMIC FORCE-RESISTING SYSTEM, IN ACCORDANCE WITH THE IBC 2006 AND ASCE 7, SECTION 12.2, IS A "STRUCTURAL STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE".
- NO ALLOWANCE HAS BEEN MADE FOR FUTURE EXTENSIONS OR ADDITIONS
- 6. BASIC LOAD COMBINATIONS USED IN ACCORDANCE WITH THE "BUILDING" CODE"

B. GEOTECHNICAL CRITERIA

1. EXISTING FOUNDATIONS HAVE BEEN ANALYZED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT BY TERRACON CONSULANTS, INC. DATED MAY 24, 2011. A COPY OF THE REPORT IS AVAILABLE FOR INSPECTION FROM THE CONTRACTING OFFICER.

C. CAST-IN-PLACE CONCRETE -

- 1. ALL STRUCTURAL CAST-IN-PLACE CONCRETE HAS BEEN DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "BUILDING CODE" AND ACI 318-05 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY".
- 2. THE CONCRETE REQUIREMENTS ARE -
- A. 28-DAY CONCRETE COMPRESSIVE STRENGTHS -

LOCATION	MINIMUM F'c	TYPE
SLAB ON STEEL DECK	4000 PSI	L.W
CONCRETE CURBS	4000 PSI	L.W

- B. ALL PORTLAND CEMENT SHALL MEET THE REQUIREMENTS OF ASTM
- C. FLY ASH OR OTHER POZZOLANS USED AS ADMIXTURES SHALL CONFORM TO ASTM C618.
- D. PROVIDE CONCRETE AGGREGATES CONFORMING TO ASTM C33 FOR LIGHTWEIGHT (L.W.) CONCRETE. PROVIDE LIGHTWEIGHT CONCRETE WITH A CURED DENSITY OF 115 PCF ± -3 PCF.
- E. THE WATER CEMENT RATIO FOR ANY STRENGTH CONCRETE SHALL NOT BE MORE THAN 0.45.

C. CAST-IN-PLACE CONCRETE CONTINUED -

- F. CONCRETE WITH AN EXPOSURE TO FREEZING AND THAWING OR DEICING CHEMICALS SHALL HAVE AIR ENTRAINMENT PRODUCING A TOTAL AIR CONTENT OF 5 PERCENT ± 1 PERCENT BY VOLUME. AIR ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C260.
- G. THE USE OF CALCIUM CHLORIDE AND OTHER CHLORIDE CONTAINING AGENTS IN STRUCTURAL CONCRETE IS PROHIBITED.
- H. CONCRETE CLEAR COVER OVER REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI 318-05, LISTED BELOW, UNLESS NOTED OTHERWISE -

CLEAR COVER LOCATION

SLABS NOT EXPOSED TO WEATHER

3/4 IN.

- 3. CONCRETE REINFORCEMENT SHALL MEET THE FOLLOWING -
- A. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60. REINFORCING BARS THAT ARE REQUIRED TO BE WELDED SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706 GRADE 60. WELDING OF REINFORCEMENT OTHER THAN SPECIFIED IS PROHIBITED. STEEL REINFORCEMENT SHOP DRAWINGS SHALL CLEARLY DENOTE ALL WELDING REQUIREMENTS.
- B. ALL REINFORCEMENT SHALL BE CONTINUOUS. CONTINUOUS REINFORCING BARS SHALL BE LAP SLICED WITH A "CLASS B" TENSION LAP SPLICE IN ACCORDANCE WITH ACI 318-05, SECTION 12.15, UNLESS NOTED OTHERWISE. WHERE REINFORCING BARS OF DIFFERENT SIZES LAP, PROVIDE A LAP SPLICE LENGTH FOR THE LARGER REINFORCING BAR SIZE.
- C. PROVIDE (2)-#5 EACH SIDE OF EACH OPENING THRU SLABS UNLESS NOTED OTHERWISE. REINFORCING BARS SHALL EXTEND 24 INCHES PAST THE OPENING.
- D. STEEL REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED WITH REINFORCING STEEL DETAILED IN ACCORDANCE WITH ACI 315.
- 4. FORMING AND EMBEDMENTS SHALL MEET THE FOLLOWING -
- A. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4 INCH INSIDE FORMS OR TOOLED TO 3/4 INCH RADIUS ON SLABS UNLESS NOTED OTHERWISE.
- ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED AND PURPOSELY ROUGHENED TO 1/4" AMPLITUDE AND COATED WITH AN APPROVED EPOXY BINDING AGENT PRIOR TO PLACING ADJACENT CONCRETE. JOINTS IN EXPOSED CONCRETE SHALL BE USED WITH A MAXIMUM SPACING OF 50 FEET. WHERE NECESSARY, VERTICAL CONSTRUCTION JOINTS SHALL BE LOCATED WITHIN THE CENTER ONE-THIRD OF THE SPAN UNLESS NOTED OTHERWISE.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL FORMING. TEMPORARY BRACING. AND SHORING.
- D. NO ALUMINUM SHALL BE EMBEDDED IN CONCRETE. CONDUITS AND PIPING SHALL NOT BE EMBEDDED IN CONCRETE SLABS-ON-GRADE, ELEVATED CONCRETE STRUCTURAL SLABS OR WALLS, OR ELEVATED CONCRETE SLABS ON STEEL DECK. VERTICAL PENETRATIONS THRU ELEVATED SLABS SHALL BE COORDINATED NOT TO CONFLICT WITH REINFORCING AND SHALL BE SHOWN ON THE STEEL REINFORCEMENT AND STEEL DECK SHOP DRAWINGS. PENETRATIONS SHALL NOT PENETRATE BEAMS. VERTICAL PENETRATIONS THRU ELEVATED SLABS SHALL BE SLEEVED OR FORMED ONLY. CORE DRILLING SHALL NOT BE ALLOWED.
- 5. CURING FOR CONCRETE SURFACES NOT IN CONTACT WITH FORMS. ONE OF THE FOLLOWING PROCEDURES SHALL BE APPLIED IMMEDIATELY AFTER COMPLETION OF PLACEMENT AND FINISHING.
- A. APPLICATION OF MOISTURE RETAINING CURING MATERIALS CONSISTING OF WATERPROOF SHEET MATERIALS, CONFORMING TO "SPECIFICATIONS FOR WATERPROOF SHEET MATERIALS FOR CURING CONCRETE" (ASTM C171). CURING SHALL BE CONTINUED AT LEAST 7 DAYS.
- B. APPLICATION OF A CURING COMPOUND CONFORMING TO "SPECIFICATIONS FOR LIQUID MEMBRANE_FORMING COMPOUNDS FOR CURING CONCRETE" (ASTM C309). THE COMPOUND SHALL BE APPLIED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER IMMEDIATELY AFTER ANY WATER SHEEN WHICH MAY DEVELOP AFTER FINISHING HAS DISAPPEARED FROM THE CONCRETE SURFACE. IT SHALL NOT BE USED ON ANY SURFACE AGAINST WHICH ADDITIONAL CONCRETE IS TO BE BONDED UNLESS IT IS PROVEN THAT THE CURING COMPOUND WILL NOT PREVENT PROPER BOND, OR UNLESS POSITIVE MEASURES ARE TAKEN TO REMOVE IT COMPLETELY FROM AREAS TO RECEIVE BONDED APPLICATIONS. CURING SHALL BE CONTINUED AT LEAST 7 DAYS.
- 6. CONTRACTOR SHALL SUBMIT FOR REVIEW AND COMMENT, A CONCRETE PLACEMENT, JOINTING, AND CURING PLAN 28 DAYS PRIOR TO BEGINNING ANY CONCRETE CONSTRUCTION. THE PLAN SHALL INCLUDE AS A MINIMUM THE LOCATION, SEQUENCE, AND SCHEDULE FOR EACH CONCRETE PLACEMENT. THE CONCRETE JOINTING LOCATIONS, TYPE, AND MATERIALS SHALL BE COORDINATED WITH THE PLACEMENT PLAN AND THE CONCRETE CURING MATERIALS AND DURATIONS COORDINATED WITH THE PLACEMENT AND JOINTING PLANS.
- 7. ALL ELEVATED SLABS ON STEEL DECK SHALL RECEIVE A HARD STEEL TROWEL FINISH UNLESS OTHERWISE NOTED OR REQUIRED BY A SUBSEQUENT FLOOR FINISH SYSTEM OR MATERIAL.

D. MASONRY -

- 1. ALL MASONRY HAS BEEN DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "BUILDING CODE", ACI 530-05 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", AND ACI 530.1-05 "SPECIFICATION FOR MASONRY STRUCTURES"
- 2. CONCRETE MASONRY MATERIALS -
- A. THE MINIMUM SPECIFIED DESIGN COMPRESSIVE STRENGTH (F'm) OF A PRISM ASSEMBLED OF CMU AND MORTAR SHALL BE 1500 PSI ON THE NET AREA AT 28 DAYS.
- B. ALL CONCRETE MASONRY UNITS (CMU) SHALL BE TWO CELL, HOLLOW LOAD BEARING, NORMAL WEIGHT AGGREGATE UNITS CONFORMING TO ASTM C90. ALL CONCRETE MASONRY UNITS SHALL HAVE A SPECIFIED AVERAGE (3 BLOCKS) MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI WITH NO INDIVIDUAL UNIT HAVING A COMPRESSIVE STRENGTH LESS THAN 1700 PSI BASED ON THE NET AREA.
- C. ALL MORTAR SHALL BE TYPE "S" CONFORMING TO ASTM C270 WITH A MINIMUM COMPRESSIVE STRENGTH OF 1800 PSI AT 28 DAYS.
- D. GROUT SHALL CONFORM TO ASTM C476 WITH 3/8 INCH NORMAL WEIGHT AGGREGATE AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS. THE COMPRESSIVE STRENGTH OF THE GROUT SHALL BE DETERMINED IN ACCORDANCE WITH ASTM C1019.
- E. REINFORCING STEEL SHALL MEET REQUIREMENTS OF ASTM A615 GRADE 60 KSI.
- 3. VERTICAL WALL AND PARTITION REINFORCEMENT
- A. PROVIDE VERTICAL REINFORCEMENT (NORMAL REINFORCING) IN GROUT FILLED CELLS IN ALL WALLS AS FOLLOWS UNLESS NOTED OTHERWISE

			•
WALL TYPE	REINF.	IN	MAXIMUM
	FILLED	CELLS	SPACING

8 IN. CMU (PARTIALLY GROUTED) 1 - #5 40 IN.

THERE SHALL BE A DOWEL CAST INTEGRAL WITH THE SUPPORTING MEMBER FOR EACH VERTICAL REINFORCING BAR (NORMAL REINFORCEMENT). ALL VERTICAL REINFORCING BARS AND DOWELS SHALL BE CENTERED IN THE WALL UNLESS NOTED OTHERWISE.

- B. PROVIDE AN ADDITIONAL VERTICAL REINFORCING BAR WITH DOWEL IN GROUT FILLED CELL. OF SAME SIZE AND LENGTH AS THE NORMAL REINFORCING BAR. AT THE FOLLOWING LOCATIONS -
- EACH SIDE OF A CONTROL OR ISOLATION JOINT
- 2. INTERSECTION OF EXTERIOR WALLS
- 3. INTERSECTION OF INTERIOR WALLS 4. EACH SIDE OF A WALL OPENING
- 5. EACH END OF A WALL
- C. VERTICAL REINFORCEMENT SHALL EXTEND CONTINUOUSLY FROM THE TOP OF THE SUPPORTING MEMBER TO EMBED AT LEAST 6 INCHES INTO THE TOP COURSE BOND BEAM.
- 4. HORIZONTAL WALL AND PARTITION REINFORCEMENT -
- A. PROVIDE GROUT FILLED BOND BEAMS AT THE TOP OF WALL OR PARAPET, AT ROOF LEVEL, AT FLOOR LEVELS (ABOVE GRADE), AT BOTTOM OF WALLS, AT THE TOP OF OPENINGS, BELOW OPENINGS, AT BEARING LOCATIONS, AND INTERMEDIATELY AT EVERY SIXTH COURSE (48 INCHES O.C.). BOND BEAMS SHALL BE REINFORCED AT FOLLOWS

WALL TYPE BOND BEAM REINF.

8 IN. CMU 2-#4

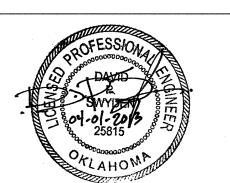
- B. PROVIDE BENT CORNER BARS TO MATCH HORIZONTAL BAR SIZE AND SPACING AT ALL WALL CORNERS AND INTERSECTIONS UNLESS NOTED OTHERWISE.
- 4. REINFORCING SHALL MEET THE FOLLOWING LAP SPLICE AND EMBEDMENT REQUIREMENTS -

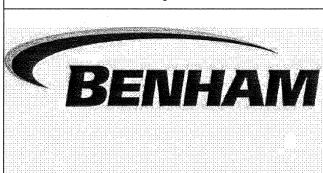
REINF.	LAP OR SPLICE	DOWELS INTO SUP	PORTING MEMBER
BAR SIZE	LENGTH IN WALL	EMBEDMENT W/	STRAIGHT
	(IN.)	STD. ACI HOOK	EMBEDMENT
		(IN.)	(IN.)
#5	30	10	21
#6	36	12	25

DOWELS SHALL EXTEND A LAP LENGTH INTO THE MASONRY WALL.

- 6. VERTICAL AND HORIZONTAL BARS AROUND PERIMETER OF OPENINGS SHALL EXTEND NOT LESS THAN 40 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS LARGER, BEYOND THE CORNER OF THE OPENING.
- 7. CELLS WHICH CONTAIN REINFORCING STEEL (VERTICAL CELLS, BOND BEAMS, LINTELS, AND PILASTERS) SHALL BE FILLED SOLIDLY WITH GROUT.
- 8. VERTICAL CELLS TO BE FILLED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR UNOBSTRUCTED CONTINUOUS VERTICAL CELL NOT LESS THAN 2 INCHES X 3 INCHES IN PLAN DIMENSIONS.
- 9. BOND BEAM REINFORCING FOR INTERIOR AND EXTERIOR WALLS SHALL BE CONTINUOUS THROUGHOUT, EXCEPT AT CONTROL AND ISOLATION JOINTS IT SHALL BE AS FOLLOWS -
- A. INTERMEDIATE BOND BEAM REINFORCING SHALL BE DISCONTINUOUS AT CONTROL JOINTS EXCEPT THAT REINFORCEMENT IN BOND BEAMS AT FLOOR AND ROOF DIAPHRAGM LEVELS SHALL BE CONTINUOUS.
- B. ALL BOND BEAM REINFORCING SHALL BE DISCONTINUOUS AT ISOLATION

FULLY SPRINKLERED







Drawing Title STRUCTURAL GENERAL STRUCTURAL NOTES

OKC VA MEDICAL CENTER 8TH FLOOR SICU ADDITION

Building Number Drawing Number

Project Number

635-406

Office of Construction and Facilities Management



ARCHITECT/ENGINEERS: CERT. OF AUTHORITY 3722 EXP. 06/30/2013

K

Approved Project Director

OKLAHOMA CITY, OK 04/01/2013

SS001 DS Dwg. -- of --

GENERAL STRUCTURAL NOTES

D. MASONRY CONTINUED -

- 10. LOCATION AND DETAILS OF MASONRY CONTROL JOINTS AND ISOLATION JOINTS IN REINFORCED MASONRY SHALL BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS. THE MAXIMUM SPACING OF CONTROL JOINTS OR ISOLATION JOINTS SHALL BE AT A LENGTH TO HEIGHT RATIO OF 11/3 TO 1 OR 25 FEET ON CENTER, WHICHEVER IS LESS. THE CONTRACTOR SHALL SUBMIT A JOINT LAYOUT PLAN FOR APPROVAL PRIOR TO CONSTRUCTION.
- 11. LINTELS SHALL CONSIST OF GROUT FILLED BOND BEAM UNITS MEETING THE FOLLOWING UNLESS OTHERWISE NOTED -

CLEAR OPENING WIDTH

UP TO 8'-0" UP TO 10'-0" UP TO 6'-4" DEPTH/REINF. DEPTH/REINF DEPTH/REINF

8 IN./2-#5

ALL LINTELS SHALL EXTEND NOT LESS THAN 40 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS GREATER, BEYOND THE CORNER OF THE OPENING

16 IN./2-#6 16 IN./2-#7

12. ALL CMU WALLS SHALL BE LAID RUNNING BOND PATTERN.

E. <u>STRUCTURAL STEEL</u> –

- 1. ALL STRUCTURAL STEEL HAS BEEN DESIGNED AND SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE "BUILDING CODE", ANSI/AISC 360-05 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (9 MARCH 2005), AND THE AISC STEEL CONSTRUCTION MANUAL (13TH EDITION) CONFORMING TO THE PROVISIONS OF THE LOAD RESISTANCE FACTOR DESIGN (LRFD).
- A. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STEEL ERECTION STANDARDS 29-CFR, SUBPART R.
- 2. STRUCTURAL STEEL SHALL MEET THE FOLLOWING REQUIREMENTS UNLESS NOTED OTHERWISE ON THE DRAWINGS -

TYPE	ASTM	GRADE FY (MIN.) KSI	
STRUCTURAL WIDE FLANGE BEAMS AND COLUMNS (W-SHAPES)	A992	50	, - nongrigo
STRUCTURAL TEES (WT-SHAPES)	A992	50	
STRUCTURAL CHANNELS AND ANGLES (C, MC, AND L-SHAPES)	A36	 36	
STRUCTURAL PLATES AND BARS (TYPICAL U.N.O.)	A36	36	
STRUCTURAL PLATES AND BARS (CONTINUITY PLATES)	A572	50	
STRUCTURAL STEEL PIPE	A53	B, TYPE E OR S 35	
HOLLOW STRUCTURAL SECTIONS (HSS-SHAPES - RECTANGULAR OR SQUARE)	A500	B 46	
HOLLOW STRUCTURAL SECTIONS (HSS-SHAPES - ROUND)	A500	B 42	
TYPE	ASTM	GRADE FY (MIN.)	•
STRUCTURAL ANCHOR RODS(BOLTS)	F1554	36	3

WITH WELDABILITY SUPPLEMENT S1 & CARBON EQUIVALENT FORMULA PER ASTM F1554 SECTION 1.5.2.1

STRUCTURAL HIGH STRENGTH BOLTS A325

STRUCTURAL STEEL CONNECTIONS —

A. ALL CONNECTIONS NOT DETAILED OR NOTED OTHERWISE SHALL BE DESIGNED BY THE FABRICATOR. CALCULATIONS FOR CONNECTIONS DESIGNED BY THE FABRICATOR AND INDICATED ON THE STRUCTURAL STEEL SHOP DRAWINGS SHALL BE SUBMITTED BEARING THE SEAL OF

NON-COMPOSITE BEAM SHEAR CONNECTIONS NOT SHOWN SHALL BE STANDARD AISC CONNECTIONS AND SHALL BE DESIGNED FOR THE SPAN USING THE "MAXIMUM TOTAL UNIFORM LOAD" TABLE 3-6, USING THE LRFD LOAD IN KIPS DIVIDED BY 2. FOUND IN SECTION 3 OF THE AISC STEEL CONSTRUCTION MANUAL, THIRTEENTH EDITION, PLUS ANY AXIAL LOAD INDICATED ON THE DRAWINGS.

A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OKLAHOMA.

CONNECTION DESIGN SHALL BE BASED ON BEARING TYPE BOLTED CONNECTIONS WITH BOLTS "SNUG TIGHT" PER RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS". WELDED TYPE CONNECTIONS SHALL BE APPROVED FOR USE PRIOR TO SUBMITTAL OF SHOP DRAWINGS.

- B. ALL MOMENT CONNECTIONS INDICATED (>) ON THE DRAWINGS SHALL DEVELOP THE FULL MOMENT CAPACITY OF THE CONNECTED MEMBERS. MOMENT CONNECTIONS SHALL BE WELDED FLANGES WITH WELDED SHEAR TABS. SEE DETAILS 4/SS005 AND 5/SS005.
- C. CONNECTION BOLTS INDICATED ON THE DRAWINGS ARE 3/4 INCH DIAMETER A325 BEARING TYPE "N" UNLESS NOTED OTHERWISE.

CONSULTANTS:

E. STRUCTURAL STEEL CONTINUED -

- D. BOLTS SHALL BE IN STANDARD SIZE HOLES UNLESS NOTED OTHERWISE. DO NOT USE OVERSIZED HOLES OR SLOTTED HOLES FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE CONTRACT DOCUMENTS OR APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD.
- E. ALL WELDING SHALL BE IN ACCORDANCE WITH LATEST AWS CODE. ALL WELDS SHALL USE E70XX ELECTRODES (Fu=70 KSI) UNLESS NOTED OTHERWISE. WELDS CONNECTING STEEL DECK TO STRUCTURAL STEEL SUPPORTS SHALL USE E60XX ELECTRODES (Fu=60 KSI).
- 4. STEEL FRAMING CONNECTIONS SHALL BE TIGHTENED AND COLUMNS SHALL BE LEVELED AND GROUTED IN PLACE BEFORE DECKING IS ATTACHED TO FRAMING.
- 5. ALL COPES, HOLES, OPENINGS AND MODIFICATIONS REQUIRED IN STRUCTURAL STEEL MEMBERS FOR ERECTION OR THE WORK OF OTHER TRADES SHALL BE SHOWN ON THE STRUCTURAL STEEL SHOP DRAWINGS AND REQUIRE APPROVAL BY THE CONTRACTING OFFICER AND THE STRUCTURAL ENGINEER OF RECORD.
- 6. FIELD MODIFICATIONS (HOLES, LENGTH ADJUSTMENTS, ETC.) OF STRUCTURAL STEEL IS PROHIBITED WITHOUT APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.
- 7. GALVANIZE SHELF ANGLES AND MISCELLANEOUS FRAMING MEMBERS AND SUPPORTS WHERE EXPOSED TO THE WEATHER AND ELEMENTS, WHERE LOCATED IN EXTERIOR WALLS AND WHERE OTHERWISE INDICATED.

F. <u>STEEL DECK</u> –

- 1. STEEL ROOF AND FLOOR DECKS SHALL COMPLY WITH THE LATEST EDITION OF THE STEEL DECK INSTITUTE (SDI) SPECIFICATIONS.
- 2. ROOFS (TYP. U.N.O.) STEEL ROOF DECK SHALL BE 1-1/2 INCHES DEEP WIDE RIB STEEL ROOF DECK WITH AN UNCOATED DESIGN THICKNESS OF 0.0358 IN., 20 GA. DECKING SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI, A MINIMUM IP OF 0.201 IN. 4/FT., A MINIMUM IN OF 0.222 IN.^4/FT., A MINIMUM Sp OF 0.234 IN.^3/FT., AND A MINIMUM Sn OF 0.247 IN.^3/FT. DECKING SHALL RECEIVE A GALVANIZED FINISH PER SPECIFICATION. DECKING SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SUPPORTS. EACH DECK UNIT SHALL BE ATTACHED TO SUPPORTING MEMBERS AND ADJACENT PANELS AS SHOWN ON DETAIL 4/SS004.
- 3. ALL ROOF DECK OPENINGS GREATER THAN 6 INCHES WIDE MEASURED PARALLEL TO THE SUPPORTING MEMBERS SHALL BE FRAMED WITH FRAMING ANGLES PER DETAILS 1/SS004 AND 3/SS004 UNLESS SHOWN OR NOTED OTHERWISE.
- 4. LOADS MAY NOT BE DIRECTLY HUNG FROM THE ROOF DECK WITHOUT PRIOR REVIEW AND APPROVAL OF THE DECK SUPPLIER AND CONTRACTING OFFICER AND THE STRUCTURAL ENGINEER OF RECORD.
- 5. FLOORS (TYP. U.N.O.) STEEL FLOOR DECK SHALL BE 2 INCHES DEEP COMPOSITE STEEL FLOOR DECK WITH AN UNCOATED DESIGN THICKNESS OF 0.0358 IN., 20 GA. DECKING SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI, A MINIMUM ID OF 0.409 IN. 4/FT., A MINIMUM IN OF 0.406 IN.^4/FT., A MINIMUM Sp OF 0.341 IN.^3/FT., AND A MINIMUM Sn OF 0.346 IN.^3/FT. DECKING SHALL RECEIVE A GALVANIZED FINISH PER SPECIFICATION. DECKING SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SUPPORTS. EACH DECK UNIT SHALL BE ATTACHED TO SUPPORTING MEMBERS AND ADJACENT PANELS AS SHOWN ON DETAIL 5/SS004.
- 6. ALL COMPOSITE FLOOR DECK OPENINGS GREATER THAN 6 INCHES WIDE MEASURED PARALLEL TO THE SUPPORTING MEMBERS SHALL BE REINFORCED OR FRAMED PER DETAILS 6/SS004 OR 7/SS004 UNLESS SHOWN OR NOTED OTHERWISE.
- 7. COMPOSITE CONSTRUCTION NOTES -
 - A. BEAMS AND STEEL COMPOSITE FLOOR DECK HAVE BEEN DESIGNED UNSHORED.
 - B. CONTRACTOR SHALL PROVIDE TEMPORARY SHORING FOR THE STEEL COMPOSITE FLOOR DECK, IF NECESSARY, IN ACCORDANCE WITH THE DECK MANUFACTURER'S RECOMMENDATIONS FOR THE SPAN AND SPAN CONDITIONS INDICATED.
 - C. CONDUITS AND PIPES SHALL NOT BE EMBEDDED IN THE CONCRETE SLABS ON STEEL COMPOSITE FLOOR DECK.
 - D. SINGLE AND MULTIPLE CONDUITS, PIPES, AND SLEEVES PENETRATING VERTICALLY THROUGH THE CONCRETE SLABS ON STEEL COMPOSITE FLOOR DECK SHALL NOT IMPAIR THE STRENGTH OF CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT STEEL DECK SHOP DRAWINGS INDICATING THE SIZE AND LOCATION OF ALL PENETRATIONS THROUGH THE CONCRETE SLABS ON STEEL COMPOSITE FLOOR DECK FOR APPROVAL BY THE CONTRACTING OFFICER AND THE STRUCTURAL ENGINEER OF RECORD PRIOR TO CONSTRUCTION OF THE DECKING.

G. COLD-FORMED METAL FRAMING (CFMF) -

- COLD-FORMED METAL FRAMING, CONNECTIONS AND COORDINATION WITH STRUCTURE SHALL BE DESIGNED BY THE CONTRACTOR AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "BUILDING CODE" AND AISI NAS-01 NORTH AMERICAN SPECIFICATION FOR DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS INCLUDING 2004 SUPPLEMENT.
- 2. ALL COLD-FORMED METAL FRAMING MEMBERS SHALL BE FORMED FROM CORROSION RESISTANT GALVANIZED STEEL, CORRESPONDING TO THE REQUIREMENTS OF ASTM A653. STRUCTURAL CFMF MEMBERS SHALL HAVE A MINIMUM YIELD STRENGTH. FY=50 KSI.

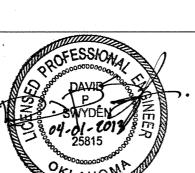
H. MISCELLANEOUS -

- 1. SHOP DRAWINGS SHALL BE ORIGINAL DRAWINGS, PREPARED BY CONTRACTOR, SUBCONTRACTOR, SUPPLIER OR DISTRIBUTOR REPRODUCTION OF STRUCTURAL CONTRACT DOCUMENTS AS ERECTION PLANS OR DETAILS WILL NOT BE PERMITTED AND WILL BE REJECTED WITHOUT REVIEW.
- 2. THE CONTRACTOR SHALL DESIGN AND PROVIDE ALL ITEMS FOR ATTACHING ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PROCESS/OPERATIONAL EQUIPMENT AND ELEMENTS TO THE BUILDING STRUCTURE TO RESIST ALL LOADS INCLUDING SEISMIC LOADS. ATTACHMENT SHALL BE MADE SO AS NOT TO OVERSTRESS THE STRUCTURAL MEMBERS. THE CONTRACTOR SHALL COORDINATE THE ATTACHMENTS AND LOCATIONS OF THE EQUIPMENT AND ELEMENTS AND INCORPORATE THEIR REQUIREMENTS INTO THE STRUCTURAL STEEL SHOP DRAWINGS. THE SHOP DRAWING SUBMITTAL SHALL INCLUDE ATTACHMENT CALCULATIONS AND THE SUBMITTAL SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OKLAHOMA. REFER TO THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. POST INSTALLED ANCHORS SHALL BE DESIGNED IN ACCORDANCE WITH ACI 318-05 APPENDIX D. SEE SECTION D.4 FOR POST-INSTALLED OVER HEAD ANCHOR REQUIREMENTS.
- SUBSTITUTION OF EXPANSION ANCHORS FOR EMBEDDED ANCHORS SHOWN ON THE DRAWINGS WILL NOT BE PERMITTED UNLESS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD AND THE CONTRACTING OFFICER IN ADVANCE.
- 4. THE CONTRACTOR SHALL INCLUDE AND PROVIDE THE FOLLOWING SERVICES -
- A. VERIFICATION OF ALL CONDITIONS, DIMENSIONS, ELEVATIONS, OPENING SIZES, AND MECHANICAL EQUIPMENT, DUCT WORK AND ELEMENTS WEIGHTS PRIOR TO STARTING WORK AND INCORPORATE THIS INFORMATION INTO THE PROJECT'S STRUCTURAL SHOP AND ERECTION DRAWINGS.
- B. VERIFICATION OF ALL DIMENSIONS AND MEMBER SIZES RELATING TO ANY EXISTING CONSTRUCTION
- C. VERIFICATION OF ALL FLOOR DRAINS, SLOPED FLOORS, FLOOR DEPRESSIONS AND OFFSETS PRIOR TO THE SUBMITTAL OF STRUCTURAL STEEL, STEEL DECK, AND/OR CONCRETE REINFORCEMENT SHOP DRAWINGS.
- D. THE GENERAL CONTRACTOR SHALL REVIEW AND APPROVE ALL SHOP DRAWINGS PRIOR TO SUBMITTAL NOTING CHANGES MADE WHICH DO NOT COMPLY WITH DESIGN DRAWINGS. PRIOR WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD AND THE CONTRACTING OFFICER SHALL BE REQUIRED FOR ALL DEVIATIONS FROM THE DESIGN DOCUMENTS. NOTE THAT REQUESTS FOR INFORMATION SHALL NOT BE USED TO INTRODUCE SUBSTITUTIONS, DEVIATIONS OR CHANGES FROM THE REQUIREMENTS INDICATED BY THE CONSTRUCTION DOCUMENTS.
- E. PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR STABILITY DURING CONSTRUCTION.
- 5. PLANS, SECTIONS, AND DETAILS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
- 6. SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS, SLEEVES, CURBS, PADS, INSERTS, ETC. NOT SHOWN ON STRUCTURAL DRAWINGS. BEFORE FABRICATION OF MATERIALS, COORDINATE WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS AND PROVIDE ALL MISCELLANEOUS AND STRUCTURAL ITEMS INDICATED OR REQUIRED TO COMPLETE THE WORK.
- 7. CONTRACTOR SHALL COORDINATE AND VERIFY ALL FLOOR PENETRATION SIZES AND LOCATIONS WITH FINAL EQUIPMENT SUPPLIER SHOP DRAWINGS SLEEVES SHALL BE USED FOR ALL PIPING, CONDUITS, ETC. PENETRATING NEW CONCRETE SLABS. CONDUIT OR PIPING SHALL NOT RUN HORIZONTALLY THROUGH CONCRETE SLABS. CORING OF NEW CONCRETE SLABS IS NOT PERMITTED FOR ANY PENETRATION. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, FIREPROTECTION AND COMMUNICATION DRAWINGS REGARDING PENETRATIONS THROUGH CONCRETE SLABS. THE SIZE AND LOCATION OF ALL PENETRATIONS THROUGH CONCRETE SLABS INCLUDING DESCRIPTIVE INFORMATION SHALL BE INCORPORATED IN THE STRUCTURAL STEEL FRAMING, STEEL DECK AND CONCRETE SYSTEM SHOP DRAWINGS
- 8. WHEN CORING OF EXISTING CONCRETE SLAB IS REQUIRED, CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF RECORD AND THE CONTRACTING OFFICER OF PROPOSED CORING FOR REVIEW AND APPROVAL PRIOR TO COMMENCING CORING. WHERE PRIOR APPROVAL IS PROVIDED. THE CONTRACTOR SHALL LOCATE ALL EXISTING REINFORCING STEEL USING NON-DESTRUCTIVE MEANS AND LOCATE CORES TO MISS REINFORCING.
- 9. CONSTRUCTION DOCUMENTS CONSIST OF THESE DRAWINGS AND A SEPARATE BOOK OF SPECIFICATIONS. THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY, NEITHER IS MEANT TO STAND ALONE FOR ANY PORTION OF THE WORK DESCRIBED HEREIN. ANY CONFLICT BETWEEN DRAWINGS AND SPECIFICATIONS SHALL BE REPORTED IMMEDIATELY TO THE STRUCTURAL ENGINEER OF RECORD AND THE CONTRACTING OFFICER

H. MISCELLANEOUS CONTINUED -

- 10. THE DESIGN DOCUMENTS REFLECT THE FINAL COMPLETED STATE OF THE STRUCTURAL SYSTEMS AND ELEMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION RELATED ENGINEERING TO INCLUDE BUT NOT BE LIMITED TO CONSTRUCTION MEANS AND METHODS. TEMPORARY SUPPORTS AND BRACING, TEMPORARY USE OF STRUCTURES, PARTIALLY CONSTRUCTED STRUCTURES AND INCOMPLETE STRUCTURES. ALL CONSTRUCTION AND RELATED ENGINEERING SHALL BE IN ACCORDANCE WITH ASCE 37 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION".
- 11. PERIODIC AND SPECIAL STRUCTURAL TESTING AND INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE MORE STRINGENT REQUIREMENTS OF THE PROJECT DRAWINGS, SPECIFICATIONS, THE "BUILDING CODE", AND AS DIRECTED BY THE CONTRACTING OFFICER. WHEN THE CONTRACTOR IS REQUIRED BY THE GOVERNMENT TO PROVIDE SPECIAL INSPECTIONS AS PART OF HIS WORK, THE CONTRACTOR SHALL RETAIN THIRD-PARTY QUALITY ASSURANCE AGENCIES TO CONDUCT THE SPECIAL INSPECTIONS REQUIRED BY THE IBC. THE INSPECTING AGENCY SHALL PROVIDE REPORTS OF THE SPECIAL INSPECTIONS DIRECTLY TO THE CONTRACTING OFFICER.
- 12. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. ELEVATIONS AND CONDITIONS OF THE EXISTING STRUCTURE PRIOR TO BEGINNING ANY PREPARATION OF SHOP DRAWINGS, FABRICATION OR CONSTRUCTION, ALL SHOP DRAWINGS, FABRICATION AND CONSTRUCTION SHALL BE COORDINATED WITH FIELD VERIFIED DIMENSIONS, ELEVATIONS AND CONDITIONS.
- 13. THIS PROJECT INCLUDES DEMOLITION, SALVAGE OF IDENTIFIED ITEMS AND MATERIALS, AND REMOVAL OF RUBBISH AND DEBRIS. RUBBISH AND DEBRIS BECOMES PROPERTY OF THE GENERAL CONTRACTOR AND SHALL BE REMOVED FROM THE SITE, UNLESS OTHERWISE DIRECTED BY THE CONTRACTING OFFICER. CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN FOR APPROVAL PRIOR TO DEMOLITION ACTIVITIES. CONTRACTOR SHALL EXERCISE CARE NOT TO DAMAGE OTHER AREAS OF THE HOSPITAL DURING DEMOLITION AND CONSTRUCTION. ANY DAMAGES SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
- 14. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES TO NOT INTERFERE WITH VA MEDICAL CENTER OPERATIONS.
- 15. THE CONTRACTOR SHOULD FAMILIARIZE THEMSELVES WITH THE AS-BUILT DRAWINGS OF THE EXISTING BUILDING PRIOR TO BIDDING THE WORK. AS-BUILT DRAWINGS ARE AVAILABLE FROM THE CONTRACTING OFFICER.

FULLY SPRINKLERED







STRUCTURAL GENERAL STRUCTURAL NOTES **Project Title** OKC VA MEDICAL CENTER 8TH FLOOR SICU ADDITION Project Number 635-406 **Building Number**

Drawing Number

Office of Construction and Facilities Management

Department of Veterans Affairs

ARCHITECT/ENGINEERS: CERT. OF AUTHORITY 3722 EXP. 06/30/2013

死

Drawing Title

Approved Project Director OKLAHOMA CITY, OK

04/01/2013 DS

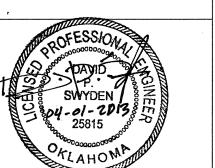
SS002 Dwg. --- of ---

STRUCTURAL ABBREVIATIONS ANCHOR BOLT(S) EAST TENSION, TOP OR TREAD(S) EACH MANUFACTURER(S) TB. TIE BEAM ABV. ABOVE ACCEL. ACCELERATION **ECCENTRICITY** MATL. TEMP. TEMPERATURE, TEMPORARY MATERIAL EDITION MAX. TENS. AMERICAN CONCRETE INSTITUTE MAXIMUM TENSION PRE-ENGINEERED METAL BUILDING MANUFACTURER EACH END MBM TOP FACE **ADDITIONAL** MBR. EACH FACE THREAD OR THREADED MEMBER ADJACENT MOMENT CONNECTION EXTERIOR INSULATED FINISH SYSTEM M.C. THK. THICK ADMIN. **ADMINISTRATIVE** MCJ T.L. ARCHITECTURAL EXPOSED STRUCTURAL STEEL MASONRY CONTROL JOINT TOP LAYER EXPANSION JOINT MECH. T.O. **ELEVATION MECHANICAL** TOP OF A.F.F. ABOVE FINISH FLOOR TOP OF CONCRETE MEP ELECTRICAL MECHANICAL, ELECTRICAL, PLUMBING, AIR HANDLING UNIT ELEVATION FIRE PROTECTION TOP OF FOOTING AMERICAN INSTITUTE OF STEEL CONSTRUCTION ELEV. T.O.G.B. TOP OF GRADE BEAM EMBED. EMBEDDED, EMBEDMENT MEZZANINE AMERICAN IRON AND STEEL INSTITUTE TOP OF MASONRY ENGR. MID. **ALTERNATE ENGINEER** MIDDLE TOP OF PIER, PEDESTAL, OR PARAPET ENT. MINIMUM ALUMINUM **ENTRAINMENT** T.O.S. TOP OF STEEL EOS MISCELLANEOUS ANCHOR EDGE OF SLAB T.O.W. TOP OF WALL AMERICAN NATIONAL STANDARDS INSTITUTE EQUAL TRANS. MASONRY LEDGE TRANSVERSE **EQUIPMENT** APPROXIMATE OR APPROXIMATELY TYPICAL ANCHOR ROD(S) **EQUIVALENT** MILLIMETER(S) TOP & BOTTOM MASONRY OPENING **ARCHITECTURAL** E.W. EACH WAY MILES PER HOUR **EXCAVATE OR EXCAVATION** AMERICAN SOCIETY OF CIVIL ENGINEERS MTL UNIFIED FACILITIES CRITERIA (DoD) **METAL** EXIST. **EXISTING** ASD ALLOWABLE STRENGTH DESIGN OR ALLOWABLE MEGAPASCAL UNLESS NOTED OTHERWISE EXP. **EXPANSION** STRESS DESIGN UNITED STATES ARMY CORPS OF ENGINEERS EXT. EXTERIOR AMERICAN SOCIETY FOR TESTING MATERIALS UNLESS OTHERWISE NOTED NORTH OR NEWTON AVERAGE AVG. NOT APPLICABLE AWS AMERICAN WELDING SOCIETY NON-DESTRUCTIVE TESTING DEPARTMENT OF VETERANS AFFAIRS FOOTING NUMBER NEAR FACE VARIES OR VARIABLE BOTTOM ALLOWABLE BENDING STRESS NOT IN CONTRACT VERT. VERTICAL ALLOWABLE COMPRESSIVE STRESS BAL. BALANCE NO. VERIFY IN FIELD NUMBER FLOOR DRAIN NOM. VOL. VOLUME NOMINAL BRICK OR BLOCK EXPANSION JOINT FDN. FOUNDATION NOT REQUIRED VAPOR RETARDER SYSTEM BEL. BELOW FIG. **FIGURE** NEAR SIDE VS **VERSUS** BETWEEN FACE TO FACE N.T.S. NOT TO SCALE VERTICAL SLIP CLIP BOTTOM EACH WAY FINISHED FLOOR OR FAR FACE N.W. VERTICAL SLIP TRACK NORMAL WEIGHT FIN. FINISH(ED) B.F. BOTTOM FACE NORMAL WEIGHT CONCRETE NWC B.F.F. BELOW FINISHED FLOOR FLEX. **FLEXIBLE** WEST, WIDTH, OR WIDE FLR. BRACED FRAME FLOOR FIREPROOF OR FIREPROOFING WEB CONNECTION BOTTOM LAYER WD. ON CENTER WOOD FAR SIDE BRICK LEDGE OR BLOCK LEDGE BL. WIDE FLANGE OUTSIDE DIAMETER FEET OR FOOT BLDG. BUILDING O.F. OUTSIDE FACE WORKING POINT FOOTING BLOCK OR BLOCKING BLK. WEAKENED PLANE JOINT OPPOSITE HAND OR OVERHEAD BM.(S) SPECIFIED MINIMUM TENSILE STRENGTH BEAM(S) W.S. WATERSTOP OPER. OPERATING B.0. BOTTOM OF SPECIFIED MINIMUM YIELD STRENGTH WEB SHEAR FRAMING CONNECTION OPNG. OPENING SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE B.0.F. BOTTOM OF FOOTING F'c OPP **OPPOSITE** WEIGHT BOTTOM OF PIER OR PEDESTAL F'cr REQUIRED COMPRESSIVE STRENGTH OF CONCRETE B.O.P. ΟZ **WWF** WELDED WIRE FABRIC OUNCE COMPRESSIVE STRENGTH OF MASONRY B.0.S. BOTTOM OF STEEL F'm BOT. BOTTOM WATER/CEMENT PARAGRAPH BASE PLATE WITHOUT PILE CAP OR PIER CAP BEARING PLATE GALVANIZED PRECAST CONCRETE BRACING GRADE BEAM PRECAST/PRESTRESSED CONCRETE INSTITUTE BRDG. BRIDGING GRADE BEAM NUMBER POUNDS PER CUBIC FOOT BRG. GENERAL CONTRACTOR BEARING PCY POUNDS PER CUBIC YARD GEN. **GENERAL** BRK. BRICK PED. PEDESTAL B.S. BOTH SIDES GEOTECHNICAL BY PERF. PERFORATED **GOVERNMENT FURNISHED** BENT PERP. PERPENDICULAR BOTTOM GOVERNMENT INSTALLED BTM. YARD B. TO B. BACK TO BACK GOVT GOVERNMENT PLF POUNDS PER LINEAL FOOT AND PLUMB. PLUMBING COMPRESSION GRATING PLYWD. PLYWOOD COLUMN NUMBER PREFAB. PREFABRICATED CENTER TO CENTER PROJ. PROJECT HEADED STUD CANTILEVER DIAMETER POUNDS PER SQUARE FOOT CATEGORY POUNDS PER SQUARE INCH CONTRACTOR FURNISHED **HORIZONTAL NUMBER** COLD-FORMED METAL FRAMING HIGH POINT POLYVINYL CHLORIDE CONTRACTOR INSTALLED HIGH STRENGTH **PERCENT** P/T POST—TENSIONED CAST-IN-PLACE HEIGHT CONSTRUCTION JOINT OR CONTROL JOINT PLUS OR MINUS QUANTITY CENTERLINE MOMENT OF INERTIA MOMENT OF INERTIA (NEGATIVE) CLR. CLEAR RISER(S) MOMENT OF INERTIA (POSITIVE) CONCRETE MASONRY UNIT RADIUS COEFF. MOMENT OF INERTIA ABOUT X-AXIS COEFFICIENT RAISED ACCESS FLOOR(ING) INTERNATIONAL BUILDING CODE COL. COLUMN ABBREVIATIONS SHOWN ARE GENERAL RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS COMPOSITI INSIDE DIAMETER STRUCTURAL ABBREVIATIONS USED DURING R.D. ROOF DRAIN INSIDE FACE CONCRETE THE PREPARATION OF CONSTRUCTION REF. REFER TO, REFERENCE CONNECTION INCH(ES) DOCUMENTS. NOT ALL ABBREVIATIONS ARE REINF. REINFORCING OR REINFORCEMENT INCLUDE(D)(ING) CONSTR. CONSTRUCTION USED WITHIN THESE DOCUMENTS. REQ'D. REQUIRED INFO INFORMATION CONT. CONTINUOUS REQ'MT(S) REQUIREMENT(S) COORD COORDINATE INTERIOR OR INTERMEDIATE REVISION CTR. CENTER RND. ROUND JOIST BEARING CU. ROOF TOP UNIT CAPILLARY WATER BARRIER JST. JOIST **JOINT** SOUTH OR SECTION MODULUS SHEAR CONNECTOR DECK BEARING SCHED. SCHEDULE KIPS PER CUBIC FOOT DEFORMED BAR ANCHOR KCF SDI STEEL DECK INSTITUTE DOUBLE KILOGRAM SDL SUPERIMPOSED DEAD LOAD KIPS PER LINEAL FOOT DEFL. DEFLECTION SECT. SECTION DEGREE KILONEWTON STRUCTURAL ENGINEER OF RECORD **DEMOLISH KILOPASCAL** SQUARE FOOT (FEET) DET. DETAIL KIPS PER SQUARE FOOT SHEET DIA. DIAMETER KIPS PER SQUARE INCH SIMILAR DIAG. DIAGONAL SAWED JOINT DIM. **DIMENSIONS** ENGTH, LONG STEEL JOIST INSTITUTE DK. DECK POUND(S) SLBB SHORT LEG BACK-TO-BACK D.L. DEAD LOAD LINEAR LIN. SHORT LEG HORIZONTAL DOWN LIVE LOAD SHORT LEG VERTICAL LONG LEG BACK-TO-BACK SECTION MODULUS (NEGATIVE) DEPARTMENT OF DEFENSE LONG LEG HORIZONTAL SLAB ON GRADE DEEP OR DRILLED PIER LLV LONG LEG VERTICAL SECTION MODULUS (POSITIVE) LONG. LONGITUDINAL SPACE(S), SPACING DOWELED SAW JOINT LOW POINT SPECIFICATION(S) DIRECT TENSION INDICATOR LOAD AND RESISTANCE FACTOR DESIGN **SQUARE** DWG.(S) DRAWING(S) LSH LONG SIDE HORIZONTAL STAINLESS STEEL DOWEL(S) DWL.(S) LONG SIDE VERTICAL STD. STANDARD LIGHT STGR. STRINGER LIGHT-WEIGHT STIFF. STIFFENER LIGHT-WEIGHT CONCRETE STEEL STRUCTURAL STRUCT. SUBSTR. SUBSTRUCTURE SUSPEND (ED) SECTION MODULUS ABOUT X-AXIS SYMMETRICAL SYS. SYSTEM ARCHITECT/ENGINEERS: CERT. OF AUTHORITY 3722 EXP. 06/30/2013 CONSULTANTS:

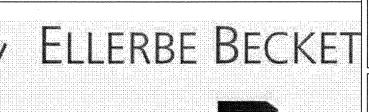
one eighth inch = one foot

0 4 8 16

FULLY SPRINKLERED







Drawing Title STRUCTURAL STRUCTURAL ABBREVIATIONS **Approved: Project Director**

Project Title
OKC VA MEDICAL CENTER 8TH FLOOR SICU ADDITION OKLAHOMA CITY, OK

DS

635-406 Building Number Drawing Number

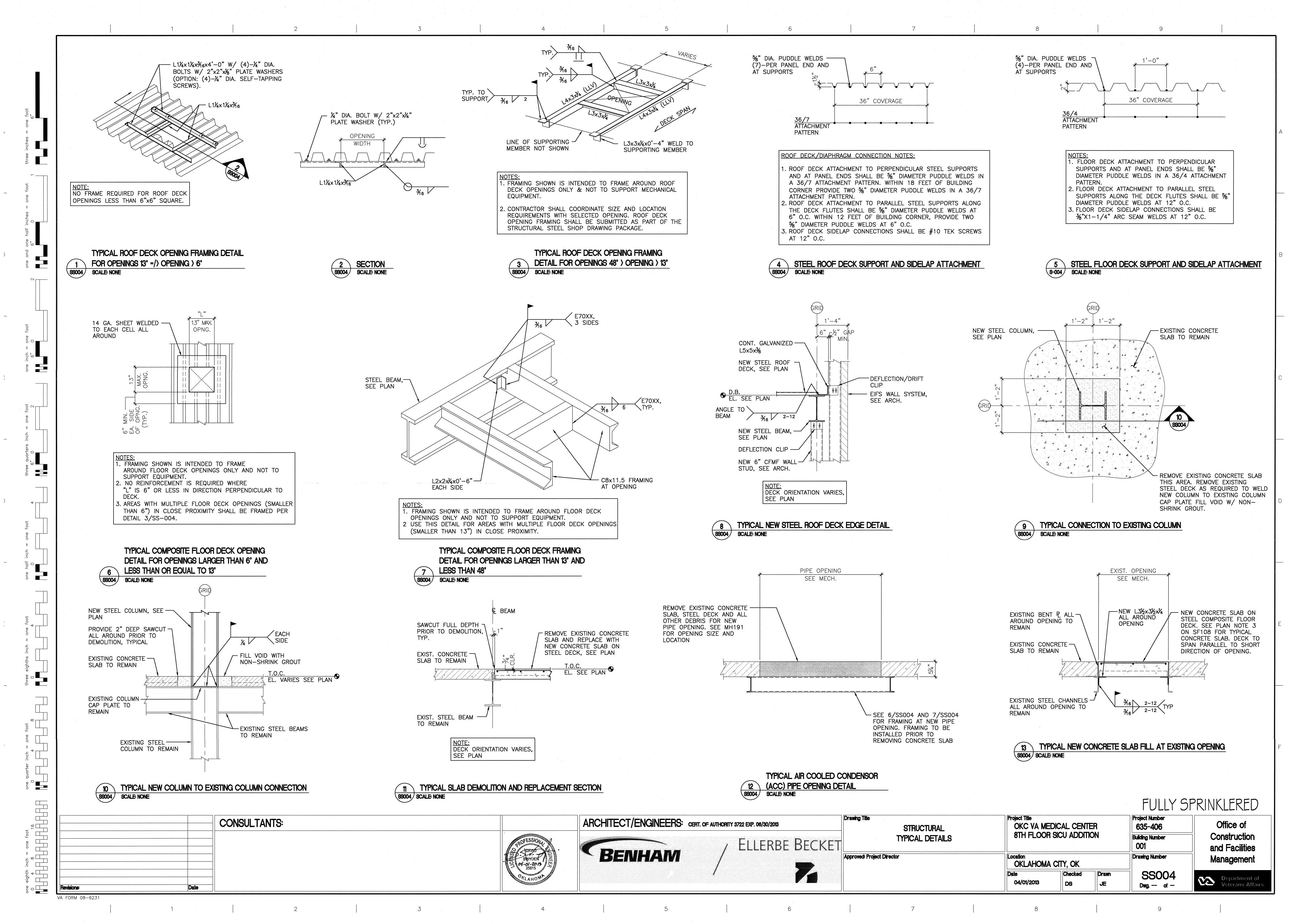
Office of Construction and Facilities Management

Department of Veterans Affairs

16

04/01/2013

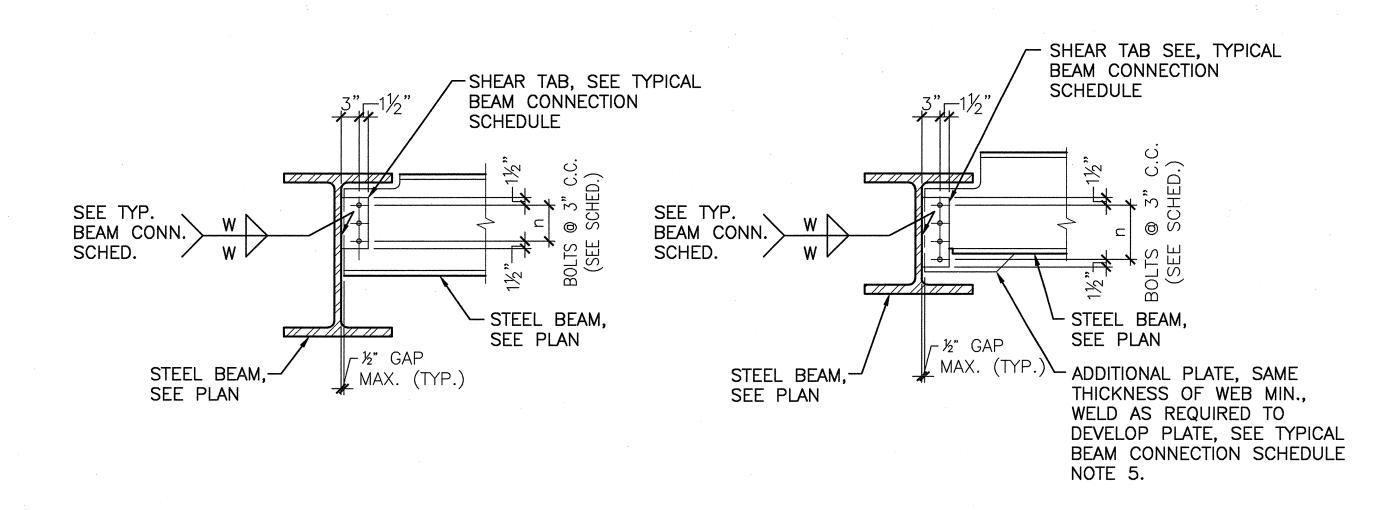
SS003 Dwg. -- of --



TYPICAL BEAM CONNECTION SCHEDULE NUMBER OF BOLTS SHEAR TAB SHEAR TAB QUANTITY SIZE OF DEPTH OF BOLTS THICKNESS WELD SIZE BOLT BOLT (in.) W8, W10 A325-N W12, W14 A325-N W16 A325-N W21, W24 A325-N 3/4" C8, C10 A325-N

1. SEE 1, 2 & 3/SS005 FOR TYPICAL BEAM CONNECTION DETAILS.

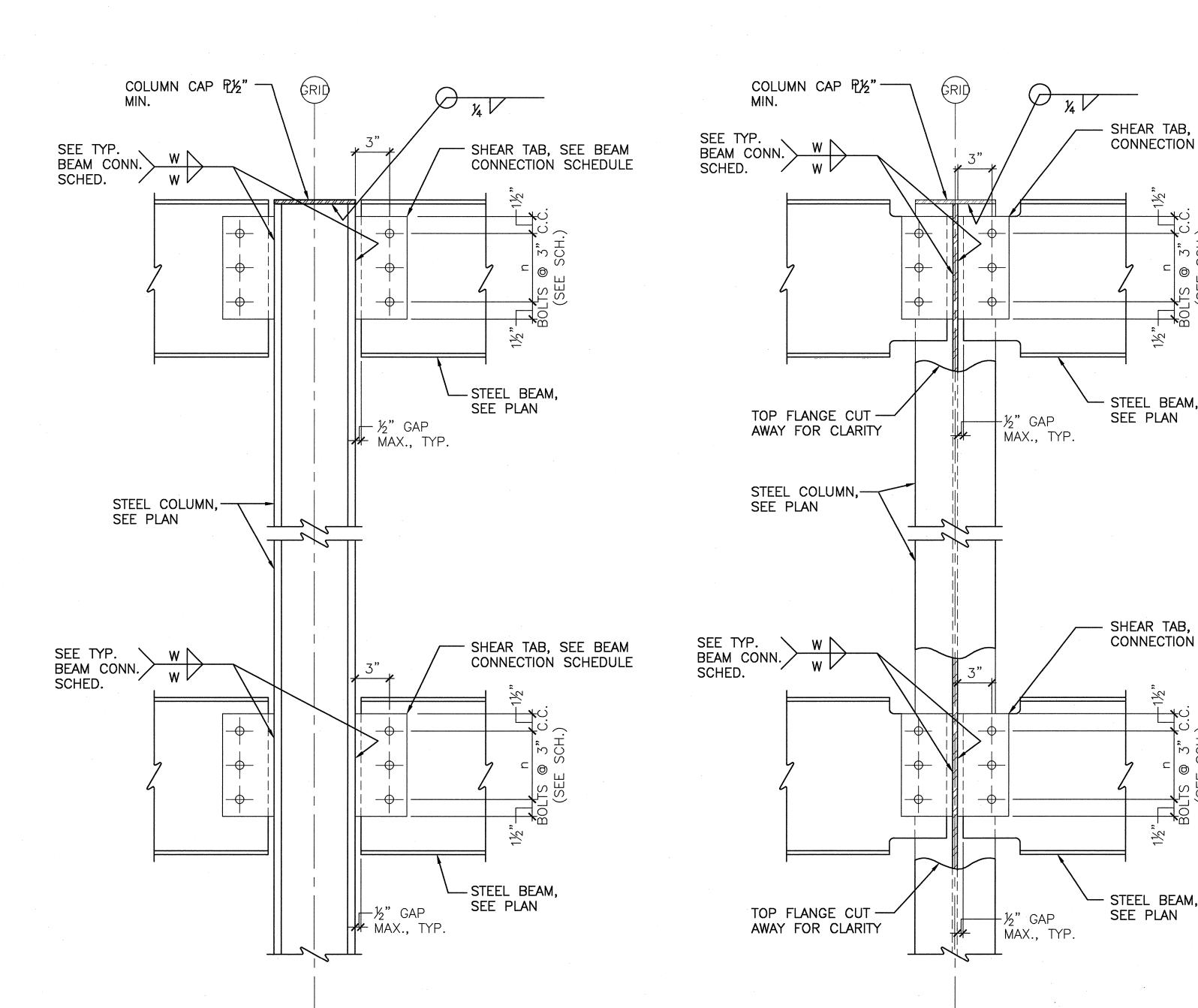
- 2. ALL BOLTS ARE A325-N BEARING TYPE BOLTS IN STANDARD SIZE HOLES. DO NOT USE OVERSIZED HOLES OR SLOTTED HOLES FOR ANY CONNECTION.
- 3. BEAMS SHALL BE COPED AS REQUIRED BY THE STEEL FABRICATOR IN THE SHOP AND NOT CUT IN THE FIELD BY THE CONTRACTOR.
- WHERE BEAM SIZES, CONFIGURATION, AND COPING DO NOT ALLOW FOR STANDARD AISC CONNECTIONS INDICATED IN THE TYPICAL BEAM CONNECTION SCHEDULE, THE CONTRACTOR'S STRUCTURAL ENGINEER SHALL DESIGN AND DETAIL SPECIFIC CONNECTIONS, AND SUBMIT CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE WHERE THE PROJECT IS LOCATED.
- 5. IF DEPTH OF BEAM CONNECTION IS INADEQUATE FOR QUAINTLY OF BOLTS SCHEDULED, DESIGN AND PROVIDE ADDITIONAL PLATES FOR ADDITIONAL BOLTS AS REQUIRED U.N.O.

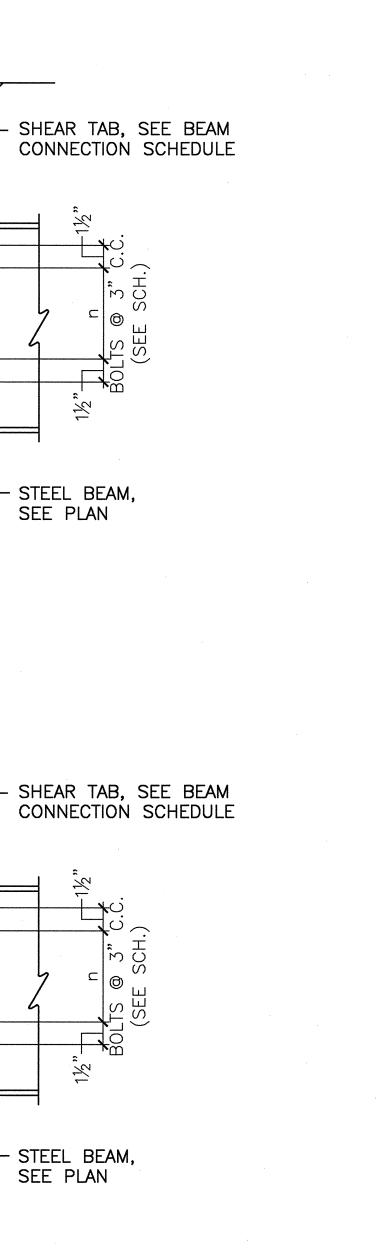


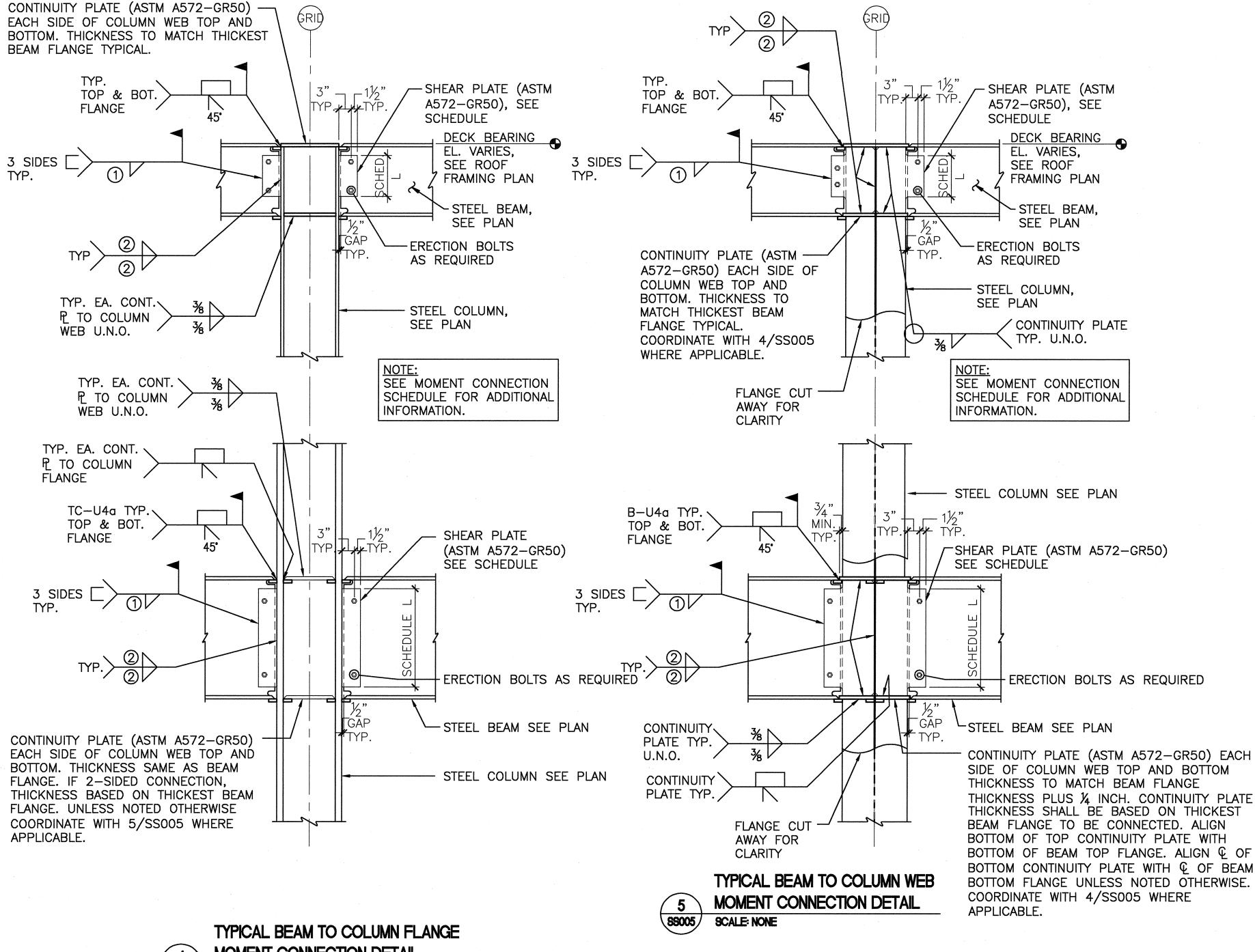
MOMENT CONNECTION SCHEDULE SHEAR SHEAR PLATE PLATE PLATE LENGTH THICKNESS WELD WELD (IN.) L (IN.) 1/4 1/4 W12 1/4 1 1/4 3/8 | 5/16 W18 3/8 5/16 W21 18



TYPICAL BEAM TO BEAM CONNECTIONS SCALE: NONE







TYPICAL BEAM TO COLUMN FLANGE CONNECTION SCALE: NONE

TYPICAL BEAM TO COLUMN WEB CONNECTION

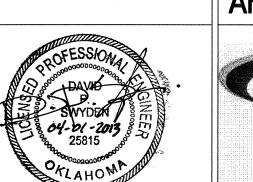
MOMENT CONNECTION DETAIL SCALE: NONE

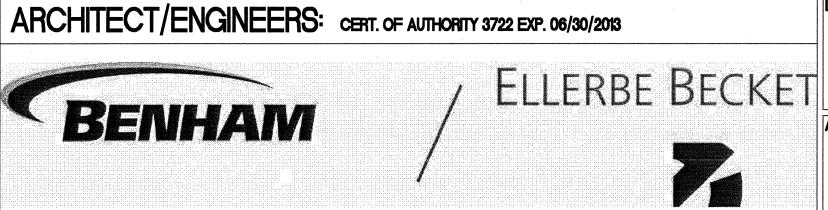
Drawing Title

FULLY SPRINKLERED

Dwg. -- of --

CONSULTANTS:



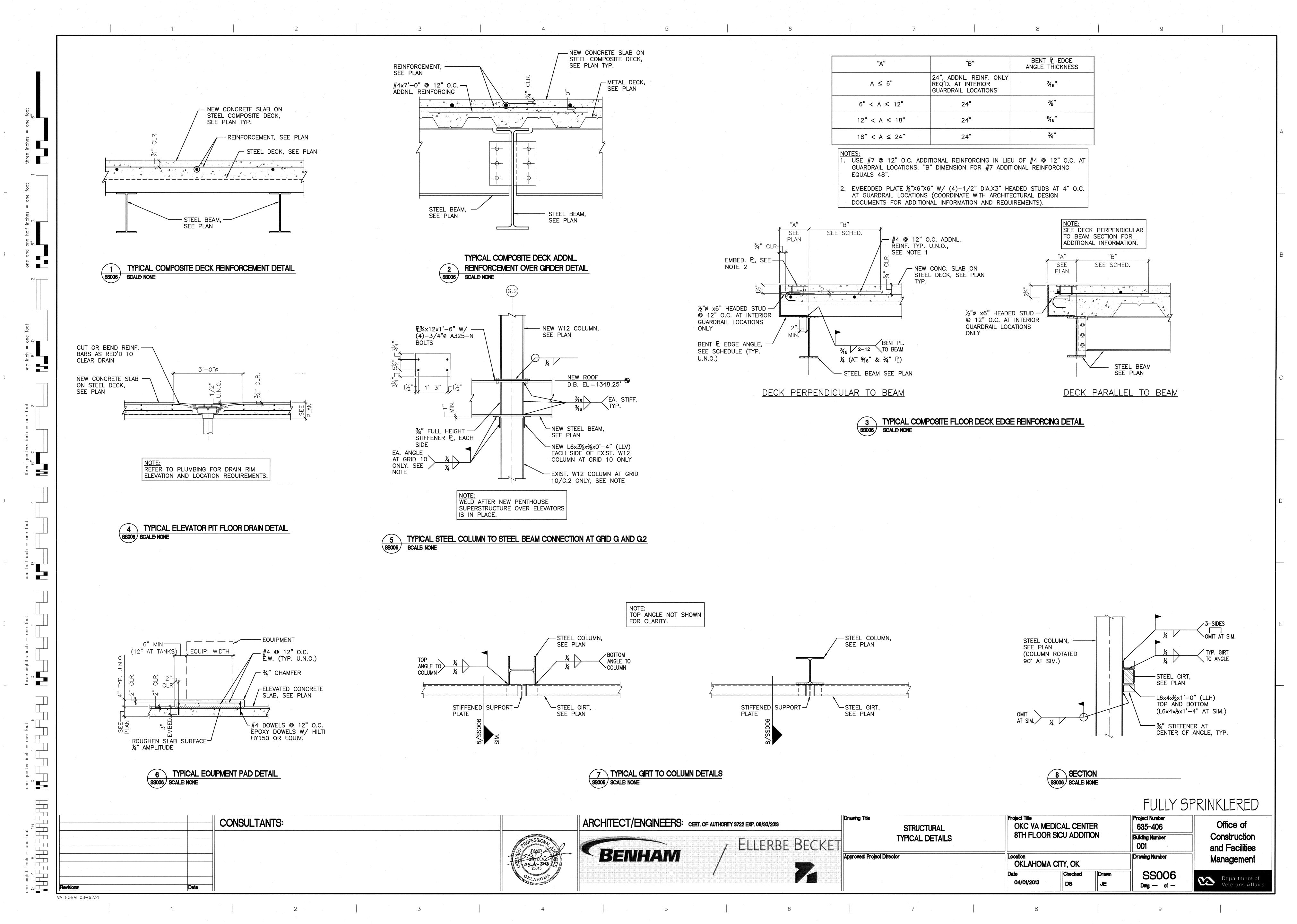


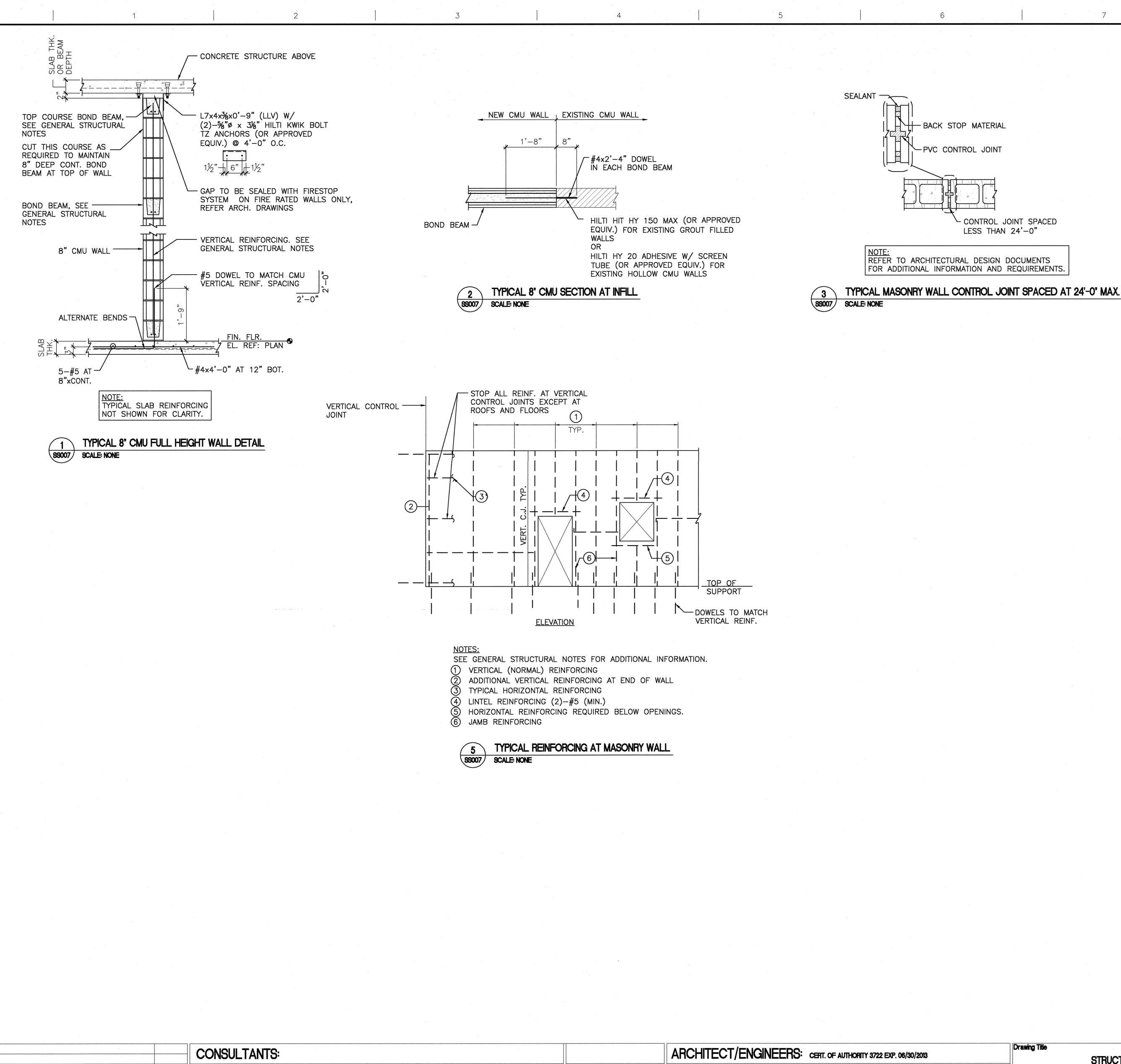
STRUCTURAL TYPICAL DETAILS Approved: Project Director

Project Title
OKC VA MEDICAL CENTER Project Number 635-406 8TH FLOOR SICU ADDITION Building Number Location OKLAHOMA CITY, OK Drawing Number SS005 04/01/2013 DS

Office of Construction and Facilities Management

Department of Veterans Affairs





one eighth inch = one foot

0 4 8 16



TYPICAL SECTION AT EXISTING ELEVATED SLABS SS007 SCALE: NONE

FULLY SPRINKLERED

ELLERBE BECKET

Drawing Title STRUCTURAL TYPICAL DETAILS Project Title
OKC VA MEDICAL CENTER 8TH FLOOR SICU ADDITION

Project Number 635-406 Building Number

Drawing Number

Office of Construction and Facilities Management

Department of Veterans Affairs

BENHAM

Approved Project Director

Location OKLAHOMA CITY, OK Checked 04/01/2013 DS

SS007 Dwg. --- of ---

STRUCTURAL SPECIAL INSPECTIONS REQUIREMENTS

STATEMENT OF SPECIAL INSPECTIONS

C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.

1. THE "STATEMENT OF SPECIAL INSPECTIONS" HAS BEEN PREPARED IN ACCORDANCE WITH IBC 2006, SECTION 1705. 2. THE CONTRACTOR SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE "SPECIAL INSPECTIONS" DURING

3. SPECIAL INSPECTIONS SHALL BE PERFORMED IN COORDINATION WITH IBC 2006 SECTION 1704.

- 4. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE CONTRACTING OFFICER FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING
- 5. THE SPECIAL INSPECTION AGENCY SHALL SUBMIT INSPECTION REPORTS TO THE CONTRACTING OFFICER AND THE STRUCTURAL ENGINEER OF RECORD DURING CONSTRUCTION FOR VERIFICATION, INCLUDING FINAL REPORTS IN ACCORDANCE
- WITH SECTION 1704.1.2 OF THE 2006 IBC. 6. THE SPECIAL INSPECTOR SHALL USE THE LATEST ISSUE OF THE STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR THE
- INSPECTION OF THIS STRUCTURE. SHOP FABRICATION DRAWINGS SHALL NOT BE USED FOR INSPECTION PURPOSES. 7. THE FOLLOWING TABLES IDENTIFY THE MATERIALS, SYSTEMS AND COMPONENTS WHICH ARE TO HAVE SPECIAL INSPECTION.

TABLE 1704.3 REQUIRED VERIFICATION	AND INSPEC	TION OF	STEEL CONSTRUCTION		l	SPECT EQUIR	
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCE STANDARD	IBC REFERENCE	YES	NO	N/A
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND V	WASHERS:					1	
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	APPLICABLE ASTM MATERIAL SPECIFICATIONS; AISC 360, SECTION A3.3	_	X		
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.		X		_	X		
2. INSPECTION OF HIGH-STRENGTH BOLTING:						L	1
A. BEARING-TYPE CONNECTIONS.		Χ	AISC 360, SECTION M2.5	1704.3.3	X		T
B. SLIP-CRITICAL CONNECTIONS.	X	X	AISC 360, SECTION M2.5	1704.3.3	X		
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL:						<u> </u>	
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	_		ASTM A 6 OR ASTM A 568	1708.4			
B. MANUFACTURERS' CERTIFIED MILL TEST REPORTS			ASTM A 6 OR ASTM A 568	1708.4	X,		
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS						.t.,	
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	_		AISC 360, SECTION A3.5	_	X	-	
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	_				X		
5. INSPECTION OF WELDING: A. STRUCTURAL STEEL:	»- 					<u> </u>	
COMPLETE AND PARTIAL PENETRATION GROOVE WELDS.	X		AWS D1.1	1704.3.1	X		
2. MULTIPASS FILLET WELDS.	X	*****	AWS D1.1	1704.3.1	X		
3. SINGLE-PASS FILLET WELDS > 5/6"	X		AWS D1.1	1704.3.1	X		
4. SINGLE-PASS FILLET WELDS < 5/16"	_	Χ	AWS D1.1	1704.3.1	Χ		
5. FLOOR AND ROOF DECK WELDS.	_	Χ	AWS D1.3	_	Χ		
B. REINFORCING STEEL:						<u> </u>	
1. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.	_	X	AWS D1.4 ACI 318: 3.5.2	_	×		
2. REINFORCING STEEL—RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL REINFORCED CONCRETE SHEAR WALLS AND SHEAR REINFORCEMENT.	X	. —	AWS D1.4 ACI 318: 3.5.2	<u>-</u>		·	x
3. SHEAR REINFORCEMENT.	X	***************************************	AWS D1.4 ACI 318: 3.5.2	_	X		
4. OTHER REINFORCING STEEL.		X	AWS D1.4 ACI 318: 3.5.2	_	X		
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE	WITH APPROVE		<u> </u>	1	1		1
A. DETAILS SUCH AS BRACING AND STIFFENING.	_	X	_	1704.3.2	X	T	
B. MEMBER LOCATIONS.	·	X		1704.3.2	X	<u> </u>	

	TABLE 1704.4 REQUIRED VERIFICATION	AND INSPEC	CTION OF	CONCRETE CONSTRUCTI	ON	1	SPECT EQUIR	
	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCE STANDARD	IBC REFERENCE	YES	NO	N/A
1.	INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.	_	X	ACI 318: 3.5, 7.1-7.7	1913.4	Х		-
2.	INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1704.3, ITEM 5b.		·	AWS D1.4 ACI 318: 3.5.2	<u>-</u>	Х		
3.	INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE.	У	<u>· </u>	<u>-</u>	1911.5	Х		
4.	INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.		Χ	ACI 318: 3.8.6, 8.1.3, 21.2.8	1912.1	Х		
5.	VERIFYING USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: CH. 4, 5.2-5.4	1904.3, 1913.2, 1913.3	Х	·	
6.	AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	- .	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1913.10	Х		
7.	INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	Χ	_	ACI 318: 5.9, 5.10	1913.6, 1913.7 1913.8	Х		
8.	INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	_	X	ACI 318: 5.11-5.13	1913.9	Χ		
9.	INSPECTION OF PRESTRESSED CONCRETE:				<u></u>	<u> </u>	£	-Auroran and an artist and a second
	A. APPLICATION OF PRESTRESSING FORCES.	X		ACI 318: 18.20			·	Х
	B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORCE-RESISTING SYSTEM.	X	· <u></u>	ACI 318: 18.18.4	_			X
10	ERECTION OF PRECAST CONCRETE MEMBERS.	_	Χ	ACI 318: CH. 16	· <u></u>			X
11	VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.		X	ACI 318: 6.2				X
12	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 6.1.1	_	Х	·	

CONSULTANTS:

TABLE 1704.5.1 MASONRY LEVEL 1 SPECIAL INSPECTION						1	INSPECTION REQUIRED	
INSPECTION TASK	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA					
	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	IBC SECTION	ACI 530/ASCE 6/TMS 602	ACI 530.1/ ASCE 5/TMS 402	YES	NO	N/A
1. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING	SHALL BE VERI	FIED TO ENSUR	RE COMPLIANCE	•		<u> </u>	<u> </u>	1
A. PROPORTIONS OF SITE-PREPARED MORTAR.	_	X			ART. 2.6A	X		
B. CONSTRUCTION OF MORTAR JOINTS.	. —	X			ART. 3.3B	Χ		
C. LOCATION OF REINFORCEMENT, CONNECTORS, PRESTRESSING TENDONS AND ANCHORAGES.	_	x	-	_	ART. 3.4, 3.6A	X		
D. PRESTRESSING TECHNIQUE.		X			ART. 3.6B			X
E. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES.	_	x	_	_	ART. 2.4B, 2.4H			X
2. THE INSPECTION PROGRAM SHALL VERIFY:	L			4		L	<u> </u>	1
A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS.	_	X		_	ART. 3.3G	X		
B. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION.	_	X	-	SEC. 1.2.2(e) 2.1.4, 3.1.6		X		
C. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT.	_	×	_	SEC. 1.13	ART. 2.4, 3.4	×		
D. WELDING OF REINFORCING BARS.	×	<u></u>	_	SEC. 2.1.10.7.2 3.3.3.4(b)	_	×		
E. PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F).	_	X	SEC. 2104.3, 2104.4	_	ART. 1.8C, 1.8D	X		
F. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE.	_	X		_	ART. 3.6B			×
3. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIE	ED TO ENSURE	COMPLIANCE:						
A. GROUT SPACE IS CLEAN.	_	X	_	_	ART. 3.2D	X		
B. PLACEMENT OF REINFORCEMENT AND CONNECTORS, PRESTRESSING TENDONS AND ANCHORAGES.	_	x	_	SEC. 1.13	ART. 3.4	X		
C. PROPORTIONS OF SITE—PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS.	_	X	_	_	ART. 2.6B	X		
D. CONSTRUCTION OF MORTAR JOINTS.		X	· <u></u>	· -	ART. 3.3B	Χ		
4. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS.	X	_	_	_	ART. 3.5	X		
A. GROUTING OF PRESTRESSING BONDED TENDONS.	X	_	_	<u> </u>	ART. 3.6C			X
5. PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED.	X	_	SEC. 2105.2.2, 2105.3	_	ART. 1.4	X		
6. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.		×	_	_	ART. 1.5	X		

FULLY SPRINKLERED

ARCHITECT/ENGINEERS: CERT. OF AUTHORITY 3722 EXP. 06/30/2013

ELLERBE BECKET BENHAM

Drawing Title STRUCTURAL STRUCTURAL SPECIAL INSPECTIONS **REQUIREMENTS**

Project Title
OKC VA MEDICAL CENTER
8TH FLOOR SICU ADDITION

04/01/2013

Project Number 635-406 **Building Number**

Drawing Number

Office of Construction and Facilities Management

Department of Veterans Affairs

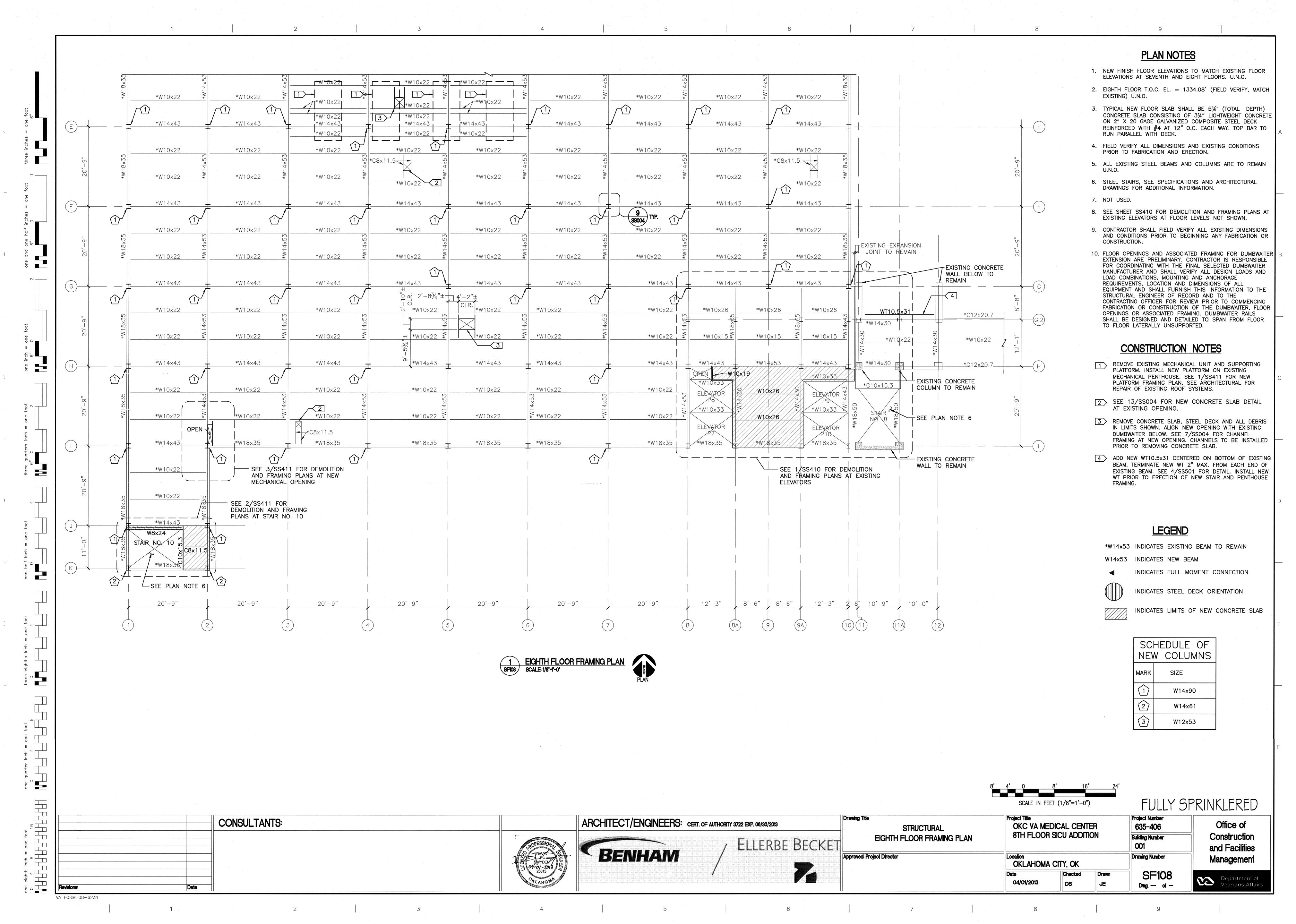
1704.3.2

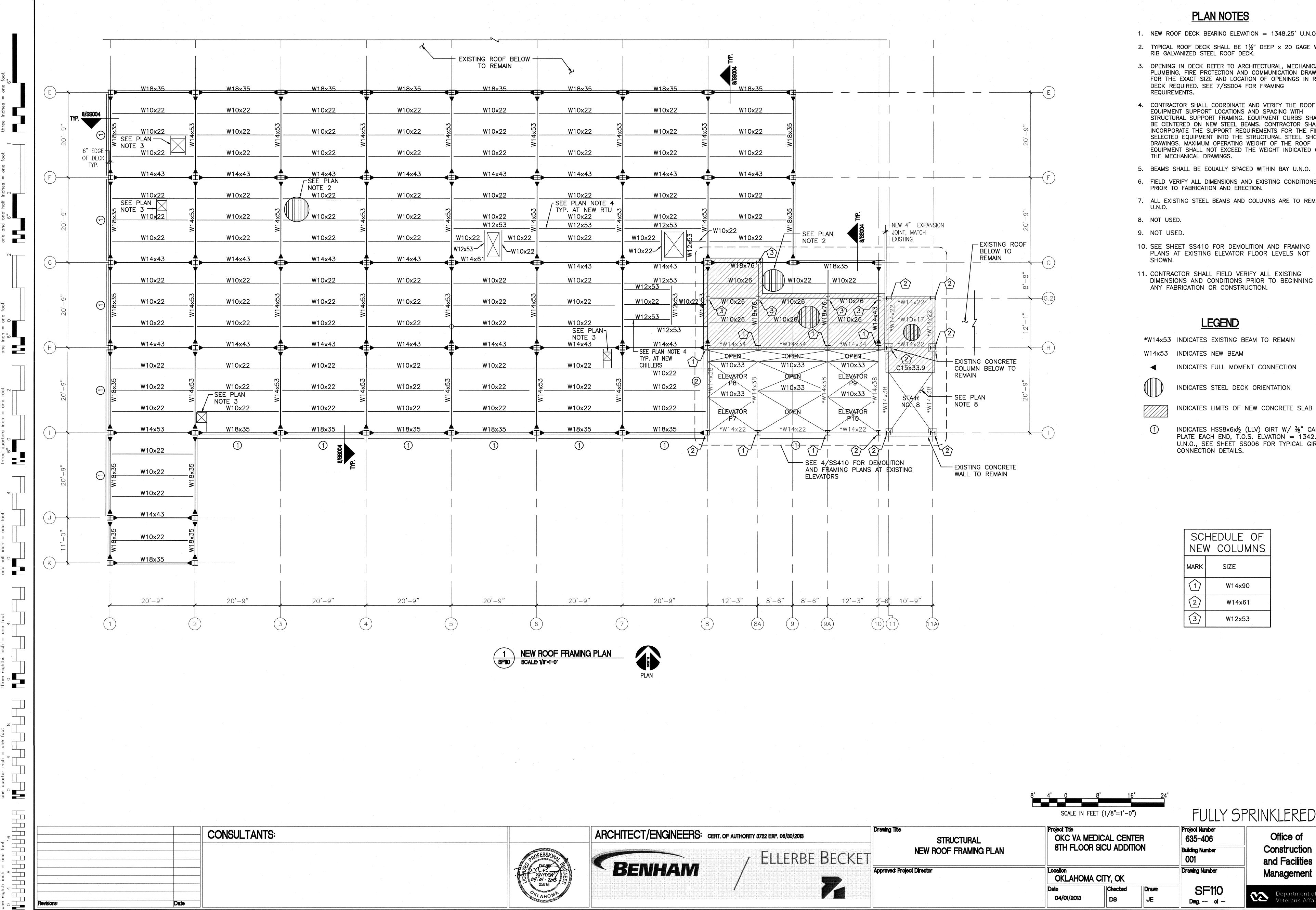
Approved: Project Director

Location
OKLAHOMA CITY, OK SS008 DS Dwg. -- of --

one eighth inch = one foot

0 4 8 16





- 1. NEW ROOF DECK BEARING ELEVATION = 1348.25' U.N.O.
- 2. TYPICAL ROOF DECK SHALL BE 11/2" DEEP x 20 GAGE WIDE
- 3. OPENING IN DECK REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION AND COMMUNICATION DRAWINGS FOR THE EXACT SIZE AND LOCATION OF OPENINGS IN ROOF DECK REQUIRED. SEE 7/SS004 FOR FRAMING
- 4. CONTRACTOR SHALL COORDINATE AND VERIFY THE ROOF EQUIPMENT SUPPORT LOCATIONS AND SPACING WITH STRUCTURAL SUPPORT FRAMING. EQUIPMENT CURBS SHALL BE CENTERED ON NEW STEEL BEAMS. CONTRACTOR SHALL INCORPORATE THE SUPPORT REQUIREMENTS FOR THE FINAL SELECTED EQUIPMENT INTO THE STRUCTURAL STEEL SHOP DRAWINGS. MAXIMUM OPERATING WEIGHT OF THE ROOF EQUIPMENT SHALL NOT EXCEED THE WEIGHT INDICATED ON
- 5. BEAMS SHALL BE EQUALLY SPACED WITHIN BAY U.N.O.
- 6. FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS
- 7. ALL EXISTING STEEL BEAMS AND COLUMNS ARE TO REMAIN
- 10. SEE SHEET SS410 FOR DEMOLITION AND FRAMING PLANS AT EXISTING ELEVATOR FLOOR LEVELS NOT
- 11. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO BEGINNING

*W14x53 INDICATES EXISTING BEAM TO REMAIN

■ INDICATES FULL MOMENT CONNECTION

INDICATES HSS8x6x1/2 (LLV) GIRT W/ 3/8" CAP

PLATE EACH END, T.O.S. ELVATION = 1342.92' U.N.O., SEE SHEET SS006 FOR TYPICAL GIRT

FULLY SPRINKLERED

Office of Construction and Facilities Management

SF110 Dwg. -- of --

Checked

DS

04/01/2013

Department of Veterans Affairs

